DOCUMENT RESUME

ED 282 744 SE 048 167

TITLE	Mathematics Curriculum. Kindergarten through Grade Twelve.
INSTITUTION	Fitchburg State Coll., Mass. Dept. of Special Education.; Leominster School District, MA.
SPONS AGENCY	Massachusetts State Board of Regents of Higher Education, Boston.
PUB DATE	[87]
NOTE	153p.
PUB TYPE	Guides - Non-Classroom Use (055)
EDRS PRICE	MF01/PC07 Plus Postage.
DESCRIPTORS	Algebra; Arithmetic; Calculus; Course Content; Curriculum Guides; *Elementary School Mathematics; Elementary Secondary Education; Geometry; *Mathematical Concepts; *Mathematics Curriculum; Mathematics Education; Mathematics Instruction; Mathematics Materials; *Mathematics Skills; *Secondary School Mathematics
IDENTIFIERS	*Massachusetts

ABSTRACT

A collaborative effort among teachers, mathematics specialists, administrators, representatives from local industry, and college and university faculty produced the complete revision of the Leominster Public School System (Massachusetts) mathematics curriculum. This document provides an outline of the complete K-12 mathematics curriculum, including matrices that list the mathematics skills and concepts to be taught at each level. The curriculum is divided into six parts. These are: (1) the elementary (K-6) curriculum; (2) the junior high (7-8) curriculum; (3) the high school curriculum; (4) the consumer mathematics curriculum; (5) the college preparatory mathematics curriculum; and (6) the business mathematics curriculum. Each curriculum outline contains statements of goals, followed by student objectives. The objectives are coded, indicating to what extent each objective relates to the four skill levels used in the outline. These levels relate to the introduction, reinforcement, mastery, and evaluation of the skill involved. Each outline also includes the name of the textbook to be used along with a list of suggested resources. (TW)

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MATHEMATICS CURRICULUM

KINDERGARTEN THROUGH GRADE TWELVE

LEOMINSTER PUBLIC SCHOOL SYSTEM

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ACKNOWLEDGEMENTS

This collaborative project was made possible through a grant awarded to Fitchburg State College by the Board of Regents of Higher Education.

We would like to thank the following people for the knowledge, skill and energy they contributed to the development of the curriculum.

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K-12
MATHEMATICS CURRICULUM

TABLE OF CONTENTS

INTRODUCTION....................I.1 - I.4

GENERAL MATHEMATICS MATRIX....................M.1 - M.16

ELEMENTARY GRADES CURRICULUM
K....................K.1 - K.2
1....................1.1 - 1.3
2....................2.1 - 2.4
3....................3.1 - 3.4
4....................4.1 - 4.5
5....................5.1 - 5.4
6....................6.1 - 6.6

JUNIOR HIGH GRADES CURRICULUM
7....................7.1 - 7.5
8....................8.1 - 8.5

HIGH SCHOOL CURRICULUM
BASIC MATH I....................BMI.1 - BMI.5
BASIC MATH II....................BMII.1 - BMII.3

CONSUMER MATHEMATICS MATRIX....................M.1 - M.6

CONSUMER MATHEMATICS CURRICULUM....................CM.1 - CM.4

COLLEGE PREPARATORY MATHEMATICS MATRIX....................M.1 - M.18

ALGEBRA I....................AI.1 - AI.4
GEOMETRY....................G.1 - G.4
ALGEBRA II....................AII.1 - AII.3
PRE-CALCULUS....................PC.1 - PC.4
PRE-COLLEGE MATHEMATICS....................PCM.1 - PCM.3
CALCULUS....................C.1 - C.5

BUSINESS MATHEMATICS CURRICULUM (NO MATRIX)

BUSINESS MATHEMATICS....................B.1 - B.6
RECORD KEEPING....................R.1 - R.7
ACCOUNTING I....................AI.1 - AI.7
ACCOUNTING II....................AII.1 - AII.7
ADVANCED ACCOUNTING....................AA.1 - AA.5

INTRODUCTION

This curriculum demonstrates the commitment of the Leominster teachers and administrators to quality education in mathematics. The project represents a collaborative effort among eleven teachers, the mathematics subject specialist, local administrators, representatives from local industry, Fitchburg State College and University of Massachusetts faculty, and other consultants. Efforts were funded by a grant awarded to Fitchburg State College by the Board of Regents of Higher Education.

The purpose of the curriculum is to develop in the students an appreciation for and a knowledge of the comprehensive skills necessary for a quality education in mathematics. Goals and skills at each grade level have been standardized to provide for consistency within the system in an effort to encourage each student to reach his/her full potential.

PROCESS

After project goals were defined, a plan for addressing the task was agreed upon. The mathematics institute met to develop a questionnaire-survey form to be responded to by the teachers in grades 1-8. The purpose of this assessment period was to identify topics which teachers addressed in their classrooms. Members of the committee then interviewed the high school teachers. The group gathered to compile data before breaking down into three clusters (K-8, 9-12 college preparatory, 9-12 business) to write a curriculum in preliminary form stating specific goals and objectives. The 9-12 clusters were able to facilitate their efforts by revising the existing curriculum which had been updated. After literary research, examination of curricula from communities across the state, and critical analysis of existing curricula, revision began.

MAINTENANCE

The curriculum is designed to allow for a continuous revision. It is typed into a word processing system and will be revised annually based on administrative and staff decisions. Since a commitment to excellence by all teachers is assumed, it is expected they will support and enhance the knowledge, competence, and skills specified in this document. This effort is supported administratively by providing a system-wide in-service staff development for teachers and administrative personnel.

CREATING A LEARNING ENVIRONMENT

One of the first priorities of the learning environment in the mathematics classroom is neatness and orderliness. An atmosphere should be created wherein the student can feel free to question without fear of ridicule or criticism. Part of this atmosphere should also include time when students can help one another with drills and exercises. On the elementary level, students should be provided with much broad practice so others can watch and help. It is essential that time be provided each day for supervised practice since simply watching the teachers do the process and performing it along with him/her is not the same as doing it by one's self. There should be a definite limit to the number of new concepts and skills taught in a day. In the matter of evaluation, there should be frequent quizzes -- either self or teacher administered -- so that confidence can be built for the more comprehensive tests.

ENRICHMENT

No curriculum can solve all our problems when we consider what we teach our children. The diversity in levels, needs and abilities of students can overwhelm the best of teachers. The curriculum that is proposed in the pages that follow is designed as an outline of goals and objectives for teachers at each grade from kindergarten through grade twelve.

It is recognized that every student may not achieve each goal and objective as stated due to any number of reasons. Other students may go far beyond the expectations that are outlined here. It is the teacher's task to individualize the goals and objectives for each student in the classroom, developing learning activities that will help each student to achieve to the best of their ability.

Individualizing instruction is a task that is much easier stated than implemented. It can be time consuming and frustrating, and yet it is the challenge that all teachers must face daily. While there are no easy answers to this problem, some general guidelines are provided that will aid teachers in adapting the curriculum for various sub-groups of students, including the gifted, bilingual, and students with special needs in the mainstream or in resource rooms.

Gifted and Talented

All classroom should offer materials, activities, and media to help all children explore the world around them. Games and stimulations that lead to increased creativity, affective awareness and problem solving give strength to any classroom curriculum.

The gifted population, however, may require experiences of this nature that go beyond those of the average student. This does not necessarily mean, however, that teachers must spend hours of preparation in designing activities to keep the more advanced students interested. The students themselves can play an active role in designing learning activities that go beyond the topic for the day.

For example, when the class is discussing a unit related to the weather, a more advanced student who demonstrates competency in this content (possibly through a pre-test) may express an interest in acid rain. With the guidance of the teacher, this student may be encouraged to investigate real life problems by defining a problem related to acid rain, developing and implementing a method of inquiry and desseminating the results. Thus the student is able to focus his/her concerns into solvable problems. The teacher, or perhaps another faculty member or community individual with expertise in a given area can serve as a mentor for a project.

Other options for gifted students that can aid them in going beyond the curriculum include developing contracts developed by them and the teacher to pursue a specific course of study. Gifted individuals may work together in groups using each other as a source of support and as aids in problem solving. Whatever the course of action that is selected to address the needs of the gifted, the teacher's task becomes one of guidance in opening doors to new avenues of study with no limits on where the discoveries may lead.

Special Learning Needs

Students who have been diagnosed as having a specific learning disability may require specialized remediation techniques that have been developed from an intensive evaluation process. These students may enter the classroom with an Individualized Education Plan that will outline strategies for the classroom teacher to follow. While this curriculum cannot account for the vast array of difficulties these students may have, there are some general guidelines teachers may follow when working with this population.

Students with learning problems will often benefit from a multi-sensory approach to teaching, including input into visual, auditory, tactile and kenesthetic channels whenever possible. Materials that are exciting and intensive, and that allow for maximum student involvement will be of benefit.

Since students who have been identified as having special needs may demonstrate a high incidence of distractibility and hyperactivity, a structured environment that is low in extraneous stimulation is essential. Teachers should assist students in organizing their thought processes by modeling appropriate problem solving strategies.

Bilingual

Teachers who are working with students who are from bilingual homes must above all else be sensitive to the culture and background of these individuals. Although it may never be possible for a teacher to understand all the little nuances of the various cultures their students bring to the classroom, the teacher must maintain an open mind to new ideas, approaches and cognitive processes of their students.

It is important for teachers to understand that the values of their students differ, even within similar cultures. When cultures differ, however, there can be a vast difference in the the way students think and behave. For example, some cultures encourage children to be active when learning while others foster more passive involvement. Some cultures may encourage children to reflect and consider all options when engaged in problem solving while others may reward children for acting on hunches. The difference may be subtle, but a lack of understanding can be devastating to a child's outlook on school.

One of the greatest impediments to the learning of bilingual students is, of course, the language barrier. It is not only in understanding what is said to them that bilingual students have difficulty, but also in receiving some acceptance for their non-standard dialect. In order to enhance the communication with their bilingual students, the teachers should use non-verbal communication channels and attempt to understand the non-verbal communication of their students as well.

The real key to success with bilingual students, as it is with any student, is in creating a positive atmosphere to reduce anxiety. The task of the teacher in delivering the curriculum, then, becomes one of creating experiences in a manner that will be valuable to the students, regardless of their background, and one that rewards their involvement in learning as well.

EXPLANATORY NOTES

Following is an explanation of the letters appearing on the right of each page:

X	Read code letter at top of column

I	Introduce skill
R	Reinforce skill
M	Master skill
E	Evaluate skill

T	Text-related test
O	Oral exam
P	Project
S	Standardized test
U	Unpublished teacher made test

A. COMPUTATION

I. Adding

1. 2 and 3 addends whose sum is less than 10
2. Any number of addends less than 10
3. Any 1-3 digit addends with renaming
4. Up to 4 digit addends with renaming through sums 9,999
5. Up to 6 digit addends with renaming through sums 1,000,000
6. Any number of addends up to 6 digits with renaming

II. Subtracting

1. Lesser number from a greater number less than 10
2. Two digit number from a three digit number with renaming
3. Lesser 3-digit number from a greater 3-digit number without renaming
4. Lesser 3-digit number from a greater 3-digit number with renaming
5. Up to a 6-digit number from a greater number with renaming
6. Any number of digits with or without renaming

III. Number Facts- Recall Adding and Subtracting Facts

1. Through 10
2. Through 18
3. Through 20

IV. Multiplying

1. Product of a 2-digit number by a 1-digit number
2. Product of a 3-digit number by a 2-digit number
3. Product of a 4-digit number by a 3-digit number with renaming
4. Product of numbers with up to 5 digits
5. Product of any two whole numbers

V. Dividing

1. Finding the quotient and remainder of a 2-digit dividend and a 1-digit divisor
2. Finding the quotient and remainder of a 3-digit dividend and a 2-digit divisor
3. Finding the quotient and remainder of a 5-digit dividend and a 2-digit divisor
4. Any dividend divided by a 1,2, or 3-digit divisor
5. Any dividend divided by a 1,2, or 3-digit divisor with quotient written as a mixed number

GENERAL MATHEMATICS MATRIX

	K	1	2	3	4	5	6	7	8	B1	B2	C
I. Adding												
1.		X	X	X	X	X	X	X	X	X	X	X
2.			X	X	X	X	X	X	X	X	X	X
3.			X	X	X	X	X	X	X	X	X	X
4.				X	X	X	X	X	X	X	X	X
5.					X	X	X	X	X	X	X	X
6.						X	X	X	X	X	X	X
II. Subtracting												
1.		X	X	X	X	X	X	X	X	X	X	X
2.			X	X	X	X	X	X	X	X	X	X
3.			X	X	X	X	X	X	X	X	X	X
4.				X	X	X	X	X	X	X	X	X
5.					X	X	X	X	X	X	X	X
6.							X	X	X	X	X	X
III. Number Facts- Recall Adding and Subtracting Facts												
1.		X	X	X	X	X	X	X	X	X	X	X
2.			X	X	X	X	X	X	X	X	X	X
3.				X	X	X	X	X	X	X	X	X
IV. Multiplying												
1.				X	X	X	X	X	X	X	X	X
2.					X	X	X	X	X	X	X	X
3.						X	X	X	X	X	X	X
4.							X	X	X	X	X	X
5.								X	X	X	X	X
V. Dividing												
1.				X	X	X	X	X	X	X	X	X
2.					X	X	X	X	X	X	X	X
3.						X	X	X	X	X	X	X
4.							X	X	X	X	X	X
5.								X	X	X	X	X

	K	1	2	3	4	5	6	7	8	B1	B2	C
VI. Multiplication and Division Facts-Recall												
1.				X	X	X	X	X	X	X	X	X
2.					X	X	X	X	X	X	X	X
3.							X	X	X	X	X	X
4.							X	X	X	X	X	X
VII. Estimating												
1.						X	X	X	X	X	X	X
2.						X	X	X	X	X	X	X
3.							X	X	X	X	X	X
4.							X	X	X	X	X	X
5.							X	X	X	X	X	X
6.							X	X	X	X	X	X
VIII. Word Problems												
1.		X	X	X	X	X	X	X	X	X	X	X
2.		X	X	X	X	X	X	X	X	X	X	X
3.				X	X	X	X	X	X	X	X	X
4.				X	X	X	X	X	X	X	X	X
5.					X	X	X	X	X	X	X	X
6.							X	X	X	X	X	X
7.							X	X	X	X	X	X
IX.Fractions												
1.					X	X	X	X	X	X	X	X
2.						X	X	X	X	X	X	X
3.						X	X	X	X	X	X	X
4.							X	X	X	X	X	X
5.						X	X	X	X	X	X	X
6.							X	X	X	X	X	X
7.								X	X	X	X	X
X.Decimals												
1.			X	X	X	X	X	X	X	X	X	X
2.				X	X	X	X	X	X	X	X	X
3.					X	X	X	X	X	X	X	X
4.						X	X	X	X	X	X	X
5.					X	X	X	X	X	X	X	X
6.						X	X	X	X	X	X	X
7.						X	X	X	X	X	X	X
8.						X	X	X	X	X	X	X

VI. Multiplication and Division Facts-Recall
1. Multiplication facts through 5x10
2. Multiplication facts through 12x10
3. Multiplication facts through 12x12
4. Inverse division facts through 12x12

VII. Estimating
1. Sums and differences of 4-digit numbers
2. Products of 3 and 4-digit numbers
3. Sum of 2 or more whole numbers
4. Difference of any 2 whole numbers
5. Product of a given multiplication problem with whole numbers
6. First digit of a division problem by rounding whole numbers

VIII. Word Problems
1. Write number sentences for word problems involving whole numbers
2. Solve one step addition and subtraction problems with sums through 10
3. Solve one step word problems using 4 operations
4. Write number sentences for word problems
5. Solve 2 step word problems involving unlike operations
6. Write number sentences for multiple word problems
7. Solve multiple step word problems

IX. Fractions
1. Add and subtract like fractions with no reducing to lowest terms
2. Add and subtract mixed numbers with renaming
3. Add, subtract and simplify like and unlike fractions and mixed numbers with renaming
4. Add, subtract, and simplify like, unlike, proper, improper and mixed fractions with renaming
5. Multiply and simplify like and unlike fractions and mixed numbers
6. Multiply, divide and simplify proper, improper and mixed fractions
7. Multiply and simplify with any number of factors

X. Decimals
1. Add and subtract amounts of money to sums less than $1.00 with/without renaming
2. Add and subtract amounts of money less than $10.00 with or without renaming
3. Add and subtract hundreds of dollars and cents with/without renaming
4. Add and subtract thousands of dollars and cents with/without renaming
5. Multiply amounts of money by a 2-digit whole number
6. Multiply amounts of money by 3-digit whole numbers
7. Divide amounts of money by 2-digit divisors
8. Estimate sums and differences of money by rounding to the nearest dollar

XI. Decimals
1. Add and subtract decimal values through thousands and thousandths with renaming
2. Add and subtract decimal values through millions and millionths with renaming
3. Add any number of decimals
4. Subtract any lesser decimal from a greater decimal
5. Multiply 1-5 digit factors with decimals
6. Divide by 1,2, and 3-digit whole or decimal divisors
7. Multiply any 2 decimals factors
8. Divide any dividend by a 3-digit divisor expressing quotient as a terminating or repeating fraction
9. Divide any quotient by a 3-digit divisor expressing quotient as a fractional remainder
10. Round off decimals to the nearest tenth, hundredth, thousandth and ten thousandth

B. NUMBER PROPERTIES

1. Count forward from 1 to 10
2. Recognize the numerals from 1 to 10
3. Match the correct number of objects with its numerical symbol from 1 to 10
4. Identify groups of objects having the same number of members
5. Read and write whole numbers from 1 to 100
6. Read and write whole numbers from 1 to 999
7. Read and write whole numbers from 1 to 1,000
8. Read and write whole numbers from 1 to 1,000,000
9. Read and write whole numbers through billions
10. Read and write whole numbers through hundred billions
11. Count forward and backward from 1 to 100
12. Count forward from 1 to 1,000
13. Count forward in patterns of 2's, 5's, and 10's, to 100
14. Count forward in patterns of 2's, 5's and 10's, to 999
15. Count forward in patterns of 2's, 5's and 10's, with no limit
16. Count forward and backward in patterns of 2's, 5's and 10's
17. Order a series of numbers in proper sequence from 1 to 999
18. Order a series of numbers in proper sequence through millions
19. Order a series of numbers in proper sequence through hundred billions
20. Express position and place using ordinal numbers from 1st to 10th

XI. DECIMALS

	K	1	2	3	4	5	6	7	8	B1	B2	C
1.						X	X	X	X	X	X	X
2.							X	X	X	X	X	X
3.								X	X	X	X	X
4.								X	X	X	X	X
5.							X	X	X	X	X	X
6.							X	X	X	X	X	X
7.								X	X	X	X	X
8.									X	X	X	X
9.									X	X	X	X
10.									X	X	X	X
B. NUMBER PROPERTIES												
1.	X											
2.	X											
3.	X											
4.	X											
5.		X	X	X	X	X	X	X	X	X	X	X
6.			X	X	X	X	X	X	X	X	X	X
7.				X	X	X	X	X	X	X	X	X
8.					X	X	X	X	X	X	X	X
9.						X	X	X	X	X	X	X
10.							X	X	X	X	X	X
11.		X	X	X	X	X	X	X	X	X	X	X
12.				X	X	X	X	X	X	X	X	X
13.		X	X	X	X	X	X	X	X	X	X	X
14.			X	X	X	X	X	X	X	X	X	X
15.				X	X	X	X	X	X	X	X	X
16.						X	X	X	X	X	X	X
17.			X	X	X	X	X	X	X	X	X	X
18.						X	X	X	X	X	X	X
19.								X	X	X	X	X
20.		X	X	X	X	X	X	X	X	X	X	X

21. Express position and place using ordinal numbers from 1st to 12th
22. Express position and place using ordinal numbers from 1st to 1,000th
23. Identify place or location using ordinal numbers
24. Identify place value of ones and tens
25. Identify place value through thousands
26. Identify place value through millions
27. Identify place value through billions
28. Identify place value of any whole or decimal number
29. Read and write Roman Numerals I, V, X and combine them to write the values of 1 to 10
30. Read and write Roman Numerals I, V, X, L, C, D, M and combine them to write values to 1,000
31. Read and write Roman Numerals I, V, X, L, C, D, M and combine them to write values to 3,999.
32. Match an illustration to the fraction representing a whole, 1/2, 1/3, 1/4
33. Read and write simple fractions and distinguish numerator and denominator
34. Read and write simple fractions and mixed numbers
35. Express a fraction as a decimal
36. Express a decimal as a fraction
37. Apply the symbols (+) and (-)
38. Apply the symbols (<),(>), and (=)
39. Recognize symbols of operations, comparison, and inclusion
40. Distinguish betweem prime and composite numbers up to 100
41. Factor a composite number using only prime factors
42. Distinguish between multiples and factors
43. List the common factors of two or more numbers
44. List the common multiples of two or more numbers
45. Find the GCF of two or more numbers
46. Find the LCM of two or more numbers
47. Write a standard numeral in expanded notation
48. Write an expanded notation as a standard numeral
49. Write a standard numeral of a BASE to a power
50. IntRoduce Rules of Divisibility 2, 3, 5, 6, 9, 10
51. Recognize numbers written in BASE 2
52. Recognize numbers written in BASE 2 and convert to BASE 10
53. Recognize numbers written in BASE 5 and 8
54. Use correct orders of operation
55. Apply commutative, associative, and distributive properties

	K	1	2	3	4	5	6	7	8	B1	B2	C
21.					X	X	X	X	X	X	X	X
22.						X	X	X	X	X	X	X
23.							X	X	X	X	X	X
24.		X	X	X	X	X	X	X	X	X	X	X
25.				X	X	X	X	X	X	X	X	X
26.					X	X	X	X	X	X	X	X
27.						X	X	X	X	X	X	X
28.							X	X	X	X	X	X
29.				X	X	X	X	X	X	X	X	X
30.					X	X	X	X	X	X	X	
31.						X	X	X	X	X	X	
32.			X	X	X	X	X	X	X	X	X	
33.				X	X	X	X	X	X	X	X	
34.					X	X	X	X	X	X	X	
35.							X	X	X	X	X	
36.							X	X	X	X	X	
37.		X	X	X	X	X	X	X	X	X	X	
38.			X	X	X	X	X	X	X	X	X	
39.								X	X	X	X	
40.						X	X	X	X	X	X	
41.							X	X	X	X	X	
42.							X	X	X	X	X	
43.							X	X	X	X	X	
44.							X	X	X	X	X	
45.							X	X	X	X	X	
46.							X	X	X	X	X	
47.							X	X	X	X	X	
48.							X	X	X	X	X	
49.							X	X	X	X	X	
50.							X	X	X	X	X	
51.								X	X	X	X	
52.								X	X	X	X	
53.									X	X	X	
54.								X	X	X	X	
55.								X	X	X	X	

C. MEASUREMENT

1. Comparison of objects (tallest/shortest, biggest/smallest, heaviest/lightest, largest/shortest)
2. Measure using ruler to inch and half inch
3. Measure linear distance using inch, foot, and yard
4. Measure to 1/4 inch
5. Measure to 1/8 inch
6. Measure to nearest centimeter
7. Measure to nearest meter
8. Decide on appropriate units of measure in British System (in., ft., yd., mi.)
9. Decide on appropriate units of measure in Metric System (mm, cm, m, km)
10. Measure to 1/16 of an inch
11. Measure to the nearest millimeter
12. Convert smaller units of measure to larger units of measure in the British system
13. Discriminate between cup, quart and gallon
14. Discriminate between cup, pint, quart and gallon
15. Discriminate between ounce, cup, pint, quart, gallon
16. Select appropriate unit of measure for a given liquid volume (millileter, liter)
17. Change measurements within the same system (pt. to qt., qt. to gal., ml., to l.)
18. Distinguish differences in weight of the ounce and pound
19. Select appropriate unit of mass for given mass (g., kg., t.)
20. Change measure within the same system (oz. to lb. to t.; mg to g, to kg.)
21. Read Fahrenheit thermometer to distinguish hot from cold
22. Read Celsius thermometer
23. Compare temperatures using both Celsius and Fahrenheit
24. Identify the order of common events
25. Identify the parts of a conventional clock
26. Read the clock to the nearest hour and half hour
27. Read a clock to the nearest quarter hour
28. Read a clock to the nearest minute
29. Add and subtract hours and minutes with renaming
30. Know the names of the days of the week and months of the year in sequence
31. Know the lengths of day, week, months, and year
32. Identify penny, nickel, dime and quarter

C. MEASUREMENT

	K	1	2	3	4	5	6	7	8	B1	B2	C
1.	X	X	X	X	X	X	X	X	X	X	X	
2.		X	X	X	X	X	X	X	X	X	X	
3.			X	X	X	X	X	X	X	X	X	
4.				X	X	X	X	X	X	X	X	
5.					X	X	X	X	X	X	X	
6.					X	X	X	X	X	X	X	
7.						X	X	X	X	X	X	
8.						X	X	X	X	X	X	
9.						X	X	X	X	X	X	
10.							X	X	X	X	X	
11.							X	X	X	X	X	
12.							X	X	X	X	X	
13.		X	X	X	X	X	X	X	X	X	X	
14.					X	X	X	X	X	X	X	
15.						X	X	X	X	X	X	
16.							X	X	X	X	X	
17.								X	X	X	X	
18.			X	X	X	X	X	X	X	X	X	
19.						X	X	X	X	X	X	
20.								X	X	X	X	
21.			X	X	X	X	X	X	X	X	X	
22.					X	X	X	X	X	X	X	
23.												
24.	X	X	X	X	X	X	X	X	X	X	X	
25.	X	X	X	X	X	X	X	X	X	X	X	
26.		X	X	X	X	X	X	X	X	X	X	
27.			X	X	X	X	X	X	X	X	X	
28.				X	X	X	X	X	X	X	X	
29.						X	X	X	X	X	X	X
30.		X	X	X	X	X	X	X	X	X	X	X
31.					X	X	X	X	X	X	X	X
32.		X	X	X	X	X	X	X	X	X	X	X

D. GEOMETRIC CONCEPTS

1. Recognize point, straight line, curve
2. Recognize the basic shapes of circle, square, triangle, and rectangle
3. Insert a missing object in an incomplete pattern
4. Differentiate inside, outside; above, below
5. Recognize open and closed figures
6. Distinguish between the geometric solids such as sphere, cylinder, cone and cube
7. Compute the perimeter of figures by adding lengths of the sides
8. Determine the area of a square and rectangle by adding square units
9. Identify polygons
10. Distinguish and identify prisms
11. Name angles and vertices of angles
12. Identify right, obtuse, and acute angles
13. Identify parallel, intersecting, and perpendicular lines
14. Identify quadrilaterals, trapezoids, rectangles and squares
15. Identify radii and diameters of circles
16. Define line, segment, ray and angle
17. Display competency in measuring angles with a protractor
18. Find the perimeter of a geometric figure using a formula
19. Find the area of a rectangle, square and triangle using a formula
20. Find the volume of a cube and rectanglar prism using a formula
21. Find the circumference of a circle using a formula when given a radius
22. Solve word problems involving area, perimeter and volume
23. Recognize pentagon, hexagon and octagon
24. Compute the area of a circle using the formula
25. Compute by formula the surface area of a cylinder and rectangular prism
26. Compute by formula the volume of a cylinder
27. Construct angles and line segments and bisect each
28. Construct an angle congruent to a given angle
29. Learn to use the symbols: pi ( ), perpendicular ( ), parallel ( ), angle ( ), and triangle ( ), line ( ), line segment ( ) and ray ( )
30. Identify and define the following triangles: acute, obtuse, right, scalene, and isosceles
31. Compute the hypoteneuse by using the Pythagorean theorem

D. GEOMETRIC CONCEPTS

	K	1	2	3	4	5	6	7	8	B1	B2	C
1.	X	X	X	X	X	X	X	X	X	X	X	X
2.	X	X	X	X	X	X	X	X	X	X	X	X
3.	X	X	X	X	X	X	X	X	X	X	X	X
4.			X	X	X	X	X	X	X	X	X	X
5.			X	X	X	X	X	X	X	X	X	X
6.			X	X	X	X	X	X	X	X	X	X
7.			X	X	X	X	X	X	X	X	X	X
8.				X	X	X	X	X	X	X	X	X
9.					X	X	X	X	X	X	X	X
10.					X	X	X	X	X	X	X	X
11.						X	X	X	X	X	X	X
12.						X	X	X	X	X	X	X
13.						X	X	X	X	X	X	X
14.						X	X	X	X	X	X	X
15.						X	X	X	X	X	X	X
16.							X	X	X	X	X	X
17.							X	X	X	X	X	X
18.							X	X	X	X	X	X
19.							X	X	X	X	X	X
20.							X	X	X	X	X	X
21.							X	X	X	X	X	X
22.								X	X	X	X	X
23.								X	X	X	X	X
24.								X	X	X	X	X
25.								X	X	X	X	X
26.								X	X	X	X	X
27.								X	X	X	X	X
28.								X	X	X	X	X
29.							X	X	X	X	X	X
30.								X	X	X	X	X
31.										X	X	X

E. PROBABILTY AND STATISTICS

1. Read and interpret simple pictographs and bar graphs
2. Read and interpret line graphs
3. Read and interpret circle graphs
4. Compute the average of a given set of data
5. Organize data to construct pictographs, bar graphs circle graphs, and line graphs
6. Compute the median, mode and range of a given set of data
7. Read and interpret multiple circle graphs
8. Interpret data to construct the circle graph using percent and degrees

F. RATIO

1. Write ratios as fractions
2. Write fractions in ratio form
3. Identify and name equivalent fractions
4. Define proportion, means and extremes
5. Use cross products to find a missing number
6. Write and solve a proportion to solve a word problem
7. Find a percent of a given number
8. Write a percent as a ratio
9. Express any fraction as a percent
10. Find the percent one number is of another
11. Find a number when the percentage of the number is given
12. Solve word problems involving interest, tax and discount
13. Solve word problems involving commission
14. Use subscripts in solving direct and inverse variation proportions
15. Use 1%, 10%, 50%, 100% to estimate answer

E.PROBABILTY AND STATISTICS

	K	1	2	3	4	5	6	7	8	B1	B2	C
1.			X	X	X	X	X	X	X	X	X	
2.				X	X	X	X	X	X	X	X	
3.						X	X	X	X	X	X	
4.							X	X	X	X	X	
5.								X	X	X	X	
6.								X	X	X	X	
7.									X	X	X	
8.									X	X	X	

F. RATIO

	K	1	2	3	4	5	6	7	8	B1	B2	C
1.						X	X	X	X	X	X	
2.						X	X	X	X	X	X	
3.							X	X	X	X	X	
4.										X	X	
5.							X	X	X	X	X	
6.							X	X	X	X	X	
7.							X	X	X	X	X	
8.							X	X	X	X	X	
9.									X	X	X	
10.									X	X	X	
11.									X	X	X	
12.									X	X	X	
13.										X	X	
14.											X	
15.											X	

G. INTEGERS

1. Add and subtract integers using a number line
2. Add and subtract integers to sums of +20 and -20
3. Recognize and graph points on a number line
4. Compare and order two or more integers
5. Perform four basic operations using integers
6. Recognize opposites
7. Recognize other points on the number line other than integers
8. Understand the concept of absolute value
9. Use variable names in place of integers
10. Understand true, false and open sentences
11. Solve open sentences
12. Solve equations with fractions
13. Solve equations using the distributive property
14. Solve equations with like variables
15. Solve word problems using equations with two or more operations
16. Graph and name coordinates of ordered pairs
17. Graph linear equations using ordered pairs
18. Graph systems of two linear equations whose solution is an ordered pair
19. Solve simultaneous equations algebraically

G. INTEGERS

	K	1	2	3	4	5	6	7	8	B1	B2	C
1.							X	X	X	X	X	
2.							X	X	X	X	X	
3.								X	X	X	X	
4.								X	X	X	X	
5.									X	X	X	
6.										X	X	
7.										X	X	
8.										X	X	
9.										X	X	
10.										X	X	
11.										X	X	
12.										X	X	
13.										X	X	
14.										X	X	
15.										X	X	
16.											X	
17.											X	
18.											X	
19.											X	

TOPIC: MATHEMATICS READINESS CONCEPTS.

TEXT: Holt Mathematics

GOAL A: DEVELOP THE ABILITY TO ASSOCIATE NUMBER AND NUMERAL

OBJECTIVES: The student will:	I	R	M	E
1. Count forward from 1 to 10			x	o
2. Recognize the numerals from 1 to 10			x	ot
3. Match the correct number of objects with its numerical symbol from 1 to 10			x	t

SUGGESTED RESOURCES: A 1-3

Counting to Ten. Golden Books. Wisconsin: Western Publishing Co., 1984.
Flannel Board [Teacher Made].
Schaffer, Frank. Help Your Child Learn Numbers. Rancho Palos Verdes, CA. 1978.
Schaffer, Frank. Learn Your Numbers. [Wipe away cards]. Rancho Palos Verdes, CA.
Wylie, R.E.,1.2.3. Practice Workbook., Preschool Practice Workbooks. 1.2.3. Things to Count From 1 to 10. Golden Books. Wisconsin: Western Publishing Co., 1982.

GOAL B: IDENTIFY SIMPLE GEOMETRICAL SHAPES.

OBJECTIVES: The student will:	I	R	M	E
1. Recognize and name the simple geometrical shapes: circle, square, rectangle and triangle			x	o
2. Identify a curve and straight line			x	o
3. Insert the missing object in an incomplete pattern			x	ot

SUGGESTED RESOURCES: B 1-3

Gertrude's Secrets [Software]. Menlo Park, CA: Learning Company, 1984.
Holt Filmstrips. Positions and Patterns, [Filmstrip and Cassette]. New York: Holt, Rinehart, Winston, 1974.
Holt Math Filmstrips. Special Relationships, [Filmstrip and Cassette], New York: Holt, Rinehart, Winston, 1974.

GOAL C: EXPLORE THE SIMPLE WAYS OF MEASUREMENT.

OBJECTIVES: The student will:	I	R	M	E
1. Identify the following coins: penny, nickel, dime and quarter	x			ot
2. Identify the parts of conventional clock: hands (large and small), face, and numbers for hours of the day	x			o
3. Identify the order of common events	x			ot
4. Name days of the week	x			o
5. Name months of the year	x			o

SUGGESTED RESOURCES: C 1-5

Calendar [Large size for adding daily dates].

GOAL D: DEVELOP A MATHEMATICAL VOCABULARY.

OBJECTIVES: The student will:	I	R	M	E
1. Compare objects with respect to size using terms: biggest/smallest longest/shortest heaviest/lightest tallest/shortest add/subtract	x			ot
2. Distinguish the term "to add" as an increase in amount, from the term "to subtract" as a decrease in amount	x			ot

SUGGESTED RESOURCES: D 1-2

Holt Mathematics Filmstrips, Size Relationships [Filmstrip and Cassette]. New York: Holt, Rinehart, Winston, 1974.

GOAL E: UNDERSTAND A ONE-TO-ONE CORRESPONDENCE.

OBJECTIVES: The student will:	I	R	M	E
1. Match the correct number of objects with its numerical symbol from 1 to 10			x	t
2. Identify groups of objects having the same number of members	x			t

SUGGESTED RESOURCES: E 1,2

Counting to Ten. Golden Books. Wisconsin: Western Publishing Co., 1984.
Flannel Board [Teacher Made].

Schaffer, Frank. Helping Your Child Learn Numbers. Rancho Palos Verde, CA. 1978.

Schaffer, Frank. Learn Your Numbers. [Wipe away cards]. Rancho Palos Verdes, CA.

Wylie, R.E. 1.2.3. Practice Book. Preschool Practice Workbooks.

Wylie, R.E. 1.2.3 Things to Count From 1 to 10. Golden Books. Wisconsin: Western Publishing Co., 1982.

TOPIC: MATHEMATICS READINESS CONCEPTS

TEXT: Holt Mathematics

GOAL A: COMPUTE USING WHOLE NUMBERS.	I	R	M	E
OBJECTIVES: The student will:				
1. Use symbols for addition and subtraction			x	t
2. Recall the addition and subtraction facts through sum 10			x	ot
3. Add two and three one-digit addends vertically and horizontally with sums through 1			x	tu
4. Subtract from a number no more than 10 a number less than 10			x	tu
5. Demonstrate multiplication as repeated addition	x			t
6. Demonstrate division as repeated subtraction	x			t
7. Write a number sentence for a word problem involving whole numbers			x	t
8. Solve one-step addition and subtraction problems with sums through 10			x	tu

SUGGESTED RESOURCES: A 1-8

Bumble Games. [Software]. Portola Valley, CA: The Learning Co., 1982, Ages 4-10.

The Classroom Organizer. [Kit], New York, Holt, Rinehart, and Winston, 1981, Grade 1. Contents:

- Placement and Final Tests
- Cumulative Tests
- Answers
- Software Information
- Problem Solving
- Logical Reasoning
- Calculator/Computer
- Enrichment
- Practice/Drill
- Manipulators
- Home Involvement
- Pre- and Post-Tests

Holt Mathematics Filmstrip. Numeration Through 99. [Filmstrip with cassette]. New York: Holt, Rinehart, Winston, 1981.

Holt Mathematics Filmstrip. Addition and Subtraction Through Sum 6. [Filmstrip with cassette]. New York: Holt, Rinehart, Winston, 1981.

Mathematics Filmstrip. Addition and Subtraction, Sums 7-12 [Filmstrip with Cassette]. New York: Holt Rinehart, Winston, 1981.

Holt Mathematics Filmstrip. Addition (2 Digit, No Regrouping). [Filmstrip with Cassette]. New York: Holt, Rinehart, Winston, 1981.

Holt Mathematics Filmstrip. Subtraction (2 Digit, No Regrouping). [Filmstrip with cassette]. New York: Holt, Rinehart, Winston, 1981.

Nichols, Eugene, D. et al. "Algorithms." Holt Math Tape, [Sound Recording], AA1-8, Cassette, with 48 p. duplicating masters to set, grade 1, 6 cassettes.

Nichols, Eugene, D. et al. "Number-Numeration," Holt Math Tape. [Sound Recording]. NN1-8, cassette with 48 p. duplicating masters to set grade 1, 6 cassettes.

GOAL B: KNOW THE FOLLOWING NUMBER PROPERTIES.

OBJECTIVES: The student will:

	I	R	M	E
1. Read and write whole numbers from 1 to 10			x	to
2. Count forward from 1 to 100			x	o
3. Count backward from 10 to 1			x	o
4. Count forward in patterns of 2's, 5's, and 10's to 100	x			ot
5. Express position and place using the ordinal-numbers from first to tenth	x			ot
6. Identify place value of ones, tens			x	t

SUGGESTED RESOURCES: B 1-6

The Classroom Organizer [Kit], New York: Holt, Rinehart, Winston, 1981, Grade 1. Contents:

Placement and Final Tests
Cumulative Tests
Answers
Software Information
Problem Solving
Logical Reasoning
Calculator/Computer
Enrichment
Practice/Drill
Manipulators
Home Involvement
Pre- and Post-Tests

Holt Mathematics Filmstrip, Numeration Through 99 [Filmstrip with cassette]. New York: Holt, Rinehart, Winston. 1981.

Nichols, Eugene, D., et. al. "Number-Numeration", Holt Math Tape [Sound Recording], NN1-8, cassette with 48 p. duplicating masters to set, grade 1, 6 cassettes.

GOAL C: UNDERSTAND AND APPLY THE CONCEPT OF MEASUREMENT.

OBJECTIVES: The student will:

	I	R	M	E
1. Compare biggest/smallest objects			x	ot
2. Compare tallest/shortest objects			x	ot
3. Measure the lengths of objects using a ruler to the nearest inch and half-inch	x			t
4. Discriminate among the units of linear measure: inch, foot, and yard	x			ot
5. Measure lengths of objects to nearest centimeters	x			t
6. Discriminate among the units of capacity - cup, quart, and gallon	x			o
7. Tell time to the nearest hour and half-hour	x			tu
8. Identify penny, nickel, dime, and quarter		x		ot
9. State the names of the days of the week		x		o
10. State the names of the months of the year		x		o

SUGGESTED RESOURCES: C 1-10

The Classroom Organizer, (Kit), New York: Holt, Rinehart, Winston, 1981, Grade 1. Contents:

- Placement and Final Tests,
- Cumulative Tests
- Answers
- Software Information
- Problem Solving
- Logical Reasoning
- Calculator/Computer
- Enrichment
- Practice/Drill
- Manipulators
- Home Involvement
- Pre- and Post-Tests

Nichols, Eugene, D., et. al. "Measurement," Holt Math Tape [Sound Recording], NN1-8, Cassette with 48 p. duplicating masters to set, grade 1, 6 cassettes.

GOAL D: UNDERSTAND AND APPLY THE FOLLOWING GEOMETRIC CONCEPTS.

OBJECTIVES: The student will:	I	R	M	E
1. Recognize a point and a straight line			x	o
2. Recognize the basic shapes of circle, triangle, rectangle, and square			x	o

SUGGESTED RESOURCES: D 1,2

The Classroom Organizer, [Kit]. New York: Holt, Rinehart, Winston, 1981, Grade 1. Contents:

- Placement and Final Tests,
- Cumulative Tests
- Answers
- Software Information
- Problem Solving
- Logical Reasoning
- Calculator/Computer
- Enrichment
- Practice/Drill
- Manipulators
- Home Involvement
- Pre- and Post-Tests

Holt Mathematics Filmstrip. Recognizing Shapes. [Filmstrip with cassette]. New York: Holt, Rinehart and Winston, 1981.

Nichols, Eugene, D. et al. "Geometry," Holt Math Tape [Sound Recording]. GG1-8, cassette with 48. p. duplicating masters to set, grade 1, 6 cassettes.

TEXT: Holt Mathematics

GOAL A: COMPUTE USING WHOLE NUMBERS, DECIMALS AND FRACTIONS.

OBJECTIVES: The student will:	I	R	M	E
1. Recall addition and subtraction facts of sums through 18			x	tu
2. Add multiple addends less than 10			x	t
3. Add any 1 to 3 digit addends with/without renaming			x	tu
4. Subtract a 2 digit number from a 3 digit number using renaming			x	tu
5. Subtract a 3 digit number from another 3 digit number without renaming			x	tu
6. Add and subtract amounts of money to sums less than $1.00 with/without renaming	x			t
7. Demonstrate multiplication as repeated additions		x		t
8. Demonstrate division as repeated subtraction		x		t
9. Write a number sentence for a word problem involving whole numbers			x	t
10. Solve one-step addition and subtraction problems with sums through 18			x	t

SUGGESTED RESOURCES: A 1-10

Alien Addition [Software]. Allen, TX: Developmental Learning Materials, 1983, Ages 5-8.

Alligator Mix [Software]. Allen, TX: Developmental Learning Materials, 1983, Ages 5-8.

Bumble Games [Software]. The Learning Company: Portola Valley, CA, 1982, Ages 4-10.

The Classroom Organizer, [Kit]. New York: Holt, Rinehart, Winston, 1981, Grade 2. Contents:

Placements and Final Tests
Cumulative Tests
Answers
Software Information
Problem Solving
Logical Reasoning
Calculator/Computer
Enrichment
Practice/Drill
Manipulators
Home Involvement
Pre- and Post-Tests

Holt Mathematics Filmstrip, Numeration Through 99 [Filmstrip with Cassette]. New York: Holt, Rinehart and Winston, 1981.

Holt Mathematics Filmstrip, Addition and Subtraction Through Sum 6 [Filmstrip with Cassette]. New York: Holt, Rinehart and Winston, 1981.

Mathematics Filmstrip, Addition and Subtraction, Sums 7-12 [Filmstrip with Cassette]. New York: Holt, Rinehart and Winston, 1981.

Holt Mathematics Filmstrip, Addition:2-Digit, No Regrouping [Filmstrip with Cassette]. New York: Holt, Rinehart and Winston, 1981.

Holt Mathematics Filmstrip, Subtraction:2-Digit, No Regrouping [Filmstrip with Cassette]. New York: Holt, Rinehart and Winston, 1981.

Minus Mission [Software]. Allen, TX: Developmental Learning Materials, 1983.

Nichols, Eugene D., et. al., "Algorithms", Holt Math Tape [Sound Recording].

AA1-8, Cassette, with 48 p. duplicating masters to set, grade 1, 6 cassettes.

Nichols, Eugene D., et al., "Number-Numeration", Holt Math Tape [Sound Recording]. NN1-8, cassette with 48 p. duplicating masters to set, grade 1, 6 cassettes.

GOAL B: KNOW THE FOLLOWING NUMBER PROPERTIES.

OBJECTIVES: The student will:

	I	R	M	E
1. Read and write numbers from 1 - 999			x	ot
2. Count numbers forward in patterns of 1's, 2's, 5's and 10's up to 999			x	ot
3. Order a series of numbers in proper sequence from 1 - 999			x	t
4. Distinguish the use of ordinal numbers from 1st through 10th			x	ot
5. Identify the place value of ones and tens and hundreds			x	tu
6. Match an illustration to the fraction representing a whole, 1/2, 1/3. and 1/4	x			t
7. Apply the symbols < and > for "is less than" and "is greater than"; = for "is equal to" in the appropriate number sentence	x			tu

SUGGESTED RESOURCES: B 1-7

The Classroom Organizer [Kit]. New York: Holt, Rinehart, Winston, 1981, grade 2. Contents:

- Placement and Final Tests
- Cumulative Tests
- Answers
- Software Information
- Problem Solving
- Logical Reasoning
- Calculator/Computer
- Enrichment
- Practice/Drill
- Manipulators
- Home Involvement
- Pre- and Post-Tests

Holt Math Filmstrip. Numeration through 999. [Filmstrip with Cassette]. New York: Holt, Rinehart, Winston, 1981.

Holt Math Filmstrip. Recognizing 1/2, 1/3, 1/4. [Filmstrip and Cassette]. New York: Holt, Rinehart, Winston, 1981.

Nichols, Eugene D. et al. Number Numeration. Holt Math Tape, [Sound Recording]. NN1-8, cassette, 48 p. duplicating masters to set, grade 1, 6 cassettes.

GOAL C: UNDERSTAND AND APPLY THE CONCEPT OF MEASUREMENT.

OBJECTIVES: The student will:

	I	R	M	E
1. Measure objects to the nearest inch and 1/2 inch		x		t
2. Measure linear distances using the inch, foot, and yard		x		t

	I	R	M	E
3. Distinguish the difference in capacity of the cup, quart, and gallon		x		t
4. Distinguish the difference in weight of the ounce and pound	x			t
5. Apply the units of linear metric measurement-meter, centimeter, millimeter	x			tu
6. Measure lengths of objects to nearest centimeter		x		tu
7. Demonstrate the reading of a Fahrenheit thermometer to distinguish hot from cold	x			ot
8. Tell time to the 1/2 and 1/4 hours		x		otu
9. Identify the value of a penny, nickel, dime, and quarter			x	tu
10. Recall and state the names of the days of the week and months of the year in proper sequence			x	ot

SUGGESTED RESOURCES: C 1-10

The Classroom Organizer [Kit]. New York: Holt, Rinehart, Winston, 1981, Grade 2. Contents:

- Placement and Final Tests
- Cumulative Tests
- Answers
- Software Information
- Problem Solving
- Logical Reasoning
- Calculator/Computer
- Enrichment
- Practice/Drill
- Manipulators
- Home Involvement
- Pre- and Post-Tests

Nichols, Eugene, D. et al. Measurement. Holt Math Tape [Sound Recording]. MM 9-16, cassette. 60 min..

GOAL D: UNDERSTAND AND APPLY THE FOLLOWING GEOMETRIC CONCEPTS.

OBJECTIVES: The student will:

	I	R	M	E
1. Differentiate inside/outside; above/below			x	otu
2. Differentiate point, straight line, curved line, and open and closed figures		x		ot
3. Identify geometrical figures such as a circle, triangle, square, and rectangle			x	ot
4. Distinguish among geometrical solids such as spheres, cylinders, cones and cubes	x			otu
5. Compute the perimeter of a figure by adding the lengths of the sides	x			tu

SUGGESTED RESOURCES: D 1-5

The Classroom Organizer [Kit]. New York: Holt, Rinehart, Winston, 1981, Grade 2. Contents:

- Placement and Final Tests
- Cumulative Tests
- Answers
- Software Information
- Problem Solving
- Logical Reasoning
- Calculator/Computer
- Enrichment
- Practice/Drill
- Manipulators
- Home Involvement
- Pre- and Post-Tests

Nichols, Eugene C. et al. "Geometry," Holt Math Tape, [Sound Recording]. GG 9-16, cassette. 60 min.

GOAL E: UNDERSTAND AND APPLY THE FOLLOWING CONCEPTS OF PROBABILITY AND STATISTICS.

OBJECTIVE: The student will:	I	R	M	E
1. Read and interpret simple pictographs and bar graphs	x			tu

SUGGESTED RESOURCES: E 1

The Classroom Organizer [Kit]. New York: Holt, Rinehart, Winston, 1981, Grade 2. Contents:

- Placements and Final Tests
- Cumulative Tests
- Answers
- Software Information
- Problem Solving
- Logical Reasoning
- Calculator/Computer
- Enrichment
- Practice/Drill
- Manipulators
- Home Involvement
- Pre- and Post-Tests

TEXT: Holt Mathematics

GOAL A: COMPUTE USING WHOLE NUMBERS, DECIMALS AND FRACTIONS.	I	R	M	E
OBJECTIVES: The student will:				
1. Recall addition and subtraction facts of sums through 20			x	tu
2. Add 4 digit addends with renaming to sums 9,999			x	tu
3. Subtract a 3 digit number from another 3 digit number with renaming			x	tu
4. Add and subtract amounts of money with/without renaming to sums and differences through tens of dollars			x	t
5. Add and subtract 1 digit dollar amounts and cents			x	t
6. Identify and use the symbols for multiplication and division		x		o
7. Recall multiplication facts through 5 X 10			x	ot
8. Solve multiplication examples using facts through 9 x 10	x			tu
9. Compute the product of a 2 digit number by a 1 digit number			x	tu
10. Compute the quotient and remainder using 2 digit dividends and 1 digit divisors			x	t
11. Write an appropriate number sentence for a word problem			x	t
12. Solve one step word problems using the 4 operations			x	t

SUGGESTED RESOURCES: A 1-12

Alien Addition [Software]. Allen, TX: Developmental Learning Materials, 1983, Ages 5-8.

Alligator Mix [Software]. Allen, TX: Developmental Learning Materials, 1983, Ages 5-8.

The Classroom Organizer [Kit]. New York: Holt, Rinehart and Winston, 1981, Grade 3. Contents:

- Placement and Final Tests
- Cumulative Tests
- Answers
- Software Information
- Problem Solving
- Logical Reasoning
- Calculator/Computer
- Enrichment
- Practice/Drill
- Manipulators
- Home Involvement
- Pre- and Post-Tests

Holt Math Filmstrips. Addition: 3 digit Regrouping [Filmstrip with Cassette]. New York: Holt Rinehart Winston, 1974. Consists of 62 full color strips 10-16 minutes.

Holt Math Filmstrips. Subtraction: 3 digit Regrouping [Film with Cassette]. New York: Holt, Rinehart, Winston, 1974. Consists of 62 full color strips 10-16 minutes.

Holt Math Filmstrip. Multiplicator: 3 digit by 1 digit Regrouping [Filmstrip and Cassette]. 17, New York: Holt, Rinehart, Winston, 1974. Consists of 16 full color strips, 10-16 minutes.

Minus Mission [Software]. Allen, TX: Developmental Learning Materials, 1983.

Nichols, Eugene D. et al. "Algorithms," Holt Math Tapes, [Sound Recordings]. Cassette accompanied by worksheets, 48 pages, 1974.

Nichols, Eugene, D. et al.," Problem Solving," Holt Math Tapes [Sound Recordings]. Cassette accompanied by worksheets, 48 pages, 1974.

GOAL B: KNOW THE FOLLOWING NUMBER PROPERTIES.

OBJECTIVES: The student will:	I	R	M	E
1. Read and write whole numbers from 1 to 1000			x	ot
2. Count forward from 1 to 1,000			x	ot
3. Count in pattern of 2's, 5's and 10's to 100			x	ot
4. Identify whole numbers from 1 to 9,999			x	o
5. Identify the place values of ones, tens, hundreds and thousands			x	to
6. Read and write simple fractions and distinguish numerator from denominator	x			t
7. Read and write the Roman Numerals I, V, X for 1, 5 and 10, and combine these numerals to write the values of 1 - 10	x			t
8. Apply the symbols < and > for "less than" and "greater than", and = for "equal to" in appropriate number sentence			x	tu

SUGGESTED RESOURCES: B 1-8

The Classroom Organizer [Kit]. New York: Holt, Rinehart, Winston, 1981, Grade 3. Contents:

Placement and Final Tests
Cumulative Tests
Answers
Software Information
Problem Solving
Logical Reasoning
Calculator/Computer
Enrichment
Practice/Drill
Manipulators
Home Involvement
Pre- and Post-Tests

Holt Math Filmstrip. Identifying Fractional Parts. [Filmstrip and Cassette]. New York: Holt, Rinehart, Winston, 1974. Consists of 16 Full Color Strips, 10-16 minutes.

Nichols, Eugene D. et al." Number Numeration," Holt Math Tapes, [Sound Recordings]. Cassette accompanied by worksheets, 48 pages, 1974.

GOAL C: UNDERSTAND AND APPLY THE CONCEPT OF MEASUREMENT.

OBJECTIVES: The student will:	I	R	M	E
1. Measure the lengths of objects to the nearest quarter of an inch	x			t
2. Apply the units of linear measurement - inch, foot, and yard		x		t
3. Apply the units of weight: ounce and pound		x		t

	I	R	M	E
4. Apply the units of liquid measurement; cup, quart and gallon		x		t
5. Apply the units of linear metric measurement-meter, centimeter, millimeter	x			tu
6. Measure lengths of objects to nearest centimeter	x			tu
7. Read temperatures on the Fahrenheit thermometer		x		ot
8. Tell time to the nearest hour, half-hour, quarter-hour and minute		x		otu
9. Identify the value of all coins		x		tu

SUGGESTED RESOURCES: C 1-9

The Classroom Organizer [Kit]. New York: Holt, Rinehart, Winston, 1981, Grade 3. Contents:

Placement and Final Tests
Cumulative Tests
Answers
Software Information
Problem Solving
Logical Reasoning
Calculator/Computer
Enrichment
Practice/Drill
Manipulators
Home Involvement
Pre- and Post-Tests

Nichols, Eugene D. et al." Measurement," Holt Math Tapes [Sound Recordings]. Cassette accompanied by worksheets, 48 pages, 1974.

GOAL D: UNDERSTAND AND APPLY THE FOLLOWING GEOMETRIC CONCEPTS.

OBJECTIVES: The student will:

	I	R	M	E
1. Distinguish and identify point, straight line, curve, and closed and open figures			x	t
2. Distinguish among and identify the following basic shapes: square, circle, triangle, rectangle			x	ot
3. Distinguish and identify the following solid figures: sphere, cylinder, cube, and cone		x		ot
4. Determine the perimeter of a square, rectangle and and triangle by addition of the lengths of their sides		x		t
5. Determine the area of a square and rectangle by adding square units	x			tu

SUGGESTED RESOURCES: D 1-5

The Classroom Organizer [Kit]. New York: Holt, Rinehart, Winston, 1981, Grade 3. Contents:

Placement and Final Tests
Cumulative Tests
Answers
Software Information
Problem Solving
Logical Reasoning
Calculator/Computer
Enrichment
Practice/Drill
Manipulators
Home Involvement
Pre- and Post-Tests

Holt Math Filmstrip. Points, Lines and Slopes. [Filmstrip with Cassette]. New York: Holt, Rinehart, Winston, 1974. Consists of 60 full color strips, 15-16 minutes.

Nichols, Eugene D. et al. "Geometry," Holt Math Tapes, [Sound Recordings]. Cassette accompanied by worksheets, 48 pages, 1974.

GOAL E: UNDERSTAND AND APPLY THE FOLLOWING CONCEPTS OF PROBABILITY AND STATISTICS.

OBJECTIVES: The student will:

	I	R	M	E
1. Read and explain data presented on bar graphs		x		tu
2. Read and explain data presented on pictographs		x		tu
3. Read and explain data presented on line graphs	x			tu

MATHEMATICS CURRICULUM 4.1
TEXT: Holt Mathematics

GOAL A: COMPUTE USING WHOLE NUMBERS, DECIMALS, AND FRACTIONS.

OBJECTIVES: The student will:

		I	R	M	E
1.	Add 6 digit addends with renaming to sums one million			x	tu
2.	Subtract a 6 digit number from another 6 digit number with renaming			x	tu
3.	Add and subtract hundreds of dollars and cents with renaming			x	t
4.	Add like fractions with reducing	x			tu
5.	Subtract like fractions with reducing	x			tu
6.	Add mixed numbers with reducing	x			tu
7.	Subtract mixed numbers with reducing	x			tu
8.	Determine common denominators	x			tu
9.	Recall multiplication facts through 12 x 10			x	otu
10.	Compute the product of a 3 digit number by a 2 digit number			x	tu
11.	Multiply amounts of money by 2 digit whole numbers	x			t
12.	Compute the quotient and remainder using 3 digit dividends and 2 digit divisors	x			tu
13.	Compute the quotient and remainder using 2 digit divisors and dollars and cents in the dividend	x			tu
14.	Solve 2 step word problems involving 2 unlike operations	x			t
15.	Compute the necessary change for all amounts of purchases			x	t

SUGGESTED RESOURCES: A 1-15

Alien Addition [Software]. Allen, TX: Developmental Learning Materials, 1983. Ages 5-8.

Alligator Mix [Software]. Allen, TX: Developmental Learning Materials, 1983. Ages 5-8.

The Classroom Organizer [Kit]. New York: Holt, Rinehart, Winston, 1981, Grade 4. Contents:

- Placement and Final Tests
- Cumulative Tests
- Answers
- Software Information
- Problem Solving
- Logical Reasoning
- Calculator/Computer
- Enrichment
- Practice/Drill
- Manipulators
- Home Involvement
- Pre- and Post-Tests

Demolition Division [Software]. Allen, TX: Developmental Learning Materials, 1983.

Dragon Mix [Software] Allen, TX: Developmental Learning Materials, 1983.

Holt Mathematics Filmstrip. Addition of Fractions [Filmstrip and Cassette]. New York: Holt, Rinehart, Winston, 1981.

Holt Mathematics Filmstrip. Multiplication (2 digit Multipliers), [Filmstrip and Cassette]. New York: Holt, Rinehart, Winston, 1981.

Holt Mathematics Filmstrips. Introduction to Division [Filmstrip and Cassette]. New York: Holt, Rinehart and Winston, 1981.

Holt Mathematics Filmstrip. Addition of Fractions [Filmstrip and Cassette]. New York: Holt, Rinehart and Winston, 1981.

SUGGESTED RESOURCES:

Holt Mathematics Filmstrip. Subtraction (3-4-5) digit numerals [Filmstrip and Cassette]. New York: Holt, Rinehart and Winston, 1981.

Individual Math Drill and Practice Kit, [Kit], New York: Random House/Singer, 1957, 20 drill sections including: Addition, subtraction, multiplication and division of whole numbers, units of measure, laws of arithmetic, fractions, mixed fractions and estimation in division. Answer keys are included.

Meteor Multiplication. [Software]. Allen, TX: Developmental Learning Materials, 1983.

Nichols, Eugene D. et al. "Algorithms," Holt Mathematics Tapes, [Sound Recording]. AA 23-32, cassette with 48 p. duplicating masters to set, Grade 4, 6 cassettes.

Nichols, Eugene D. et al. Problem Solving. Holt Mathematics Tapes, [Sound Recordings]. PS 25-32, cassette with 48 p. duplicating masters to set, Grade 4, 6 cassettes.

Nichols, Eugene D. et al. Fractions. Holt Mathematics Tapes, [Sound Recordings]. FF 1-8, cassette w/48 p duplicating masters to set, grade 4, 6 cassettes.

Nichols, Eugene D. et. al. Numbers and Numeration, Holt Mathematics Tapes [Sound Recordings]. NN 25-32, cassette with 48 p. duplicating masters to set Grade 4, 6 cassettes.

Quizmo. [Game]. Springfield, MA: Milton Bradley, 1957.

Skillbank. [Kit], Dallas: General Learning Coroporation, 1973, 3 kits containing drill Operations and Properties; sets, numbers and numeration; sentences and problem solving. Answer Keys are included.

GOAL B: KNOW THE FOLLOWING NUMBER PROPERTIES.	I	R	M	E
OBJECTIVES: The student will:				
1. Read and write whole numbers from 1 to 100,000,000			x	ot
2. Count in patterns of 2's, 5's, and 10's to 100			x	ot
3. Identify the ordinal place positions from first to twelfth			x	ot
4. Identify the place values ones, tens, hundreds, thousands, ten thousands, hundred thousands and millions			x	ot
5. Read and write simple fractions and mixed numbers			x	ot
6. Read and write the Roman Numerals I, V and X and L, C, D, M	x			t
7. Apply the symbol < and > for "less than," and "greater than," and = for "equal to," in the appropriate number sentence		x		tu

SUGGESTED RESOURCES: B 1-7

The Classroom Organizer [Kit]. New York: Holt, Rinehart, Winston, 1981, Grade 4. Contents:

- Placement and Final Tests
- Cumulative Tests
- Answers
- Software Information
- Problem Solving
- Logical Reasoning
- Calculator/Computer
- Enrichment
- Practice/Drill
- Manipulators
- Home Involvement
- Pre- and Post-Tests

Holt Mathematics Filmstrip, Measurement, the English System," [Filmstrip and Cassette]. New York: Holt, Rinehart, Winston, 1981.

Individual Math Drill and Practice Kit [Kit]. New York: Random House/Singer, 1957, 20, Drill sections including: addition, subtraction, multiplication and division of whole numbers, units of measure, laws of arithmetic, fractions, mixed fractions and estimation in division. Answer keys included.

Nichols, Eugene D. et al. Measurement. Holt Mathematics Tapes, [Sound Recordings]. MM 25-32, cassette with 48 p. duplicating masters to set, Grade 4, 6 cassettes.

GOAL C: UNDERSTAND AND BE ABLE TO APPLY THE CONCEPTS OF MEASUREMENT.

OBJECTIVES: The student will:

	I	R	M	E
1. Measure the lengths of objects to the nearest eighth of an inch			x	t
2. Apply the units of linear measurement: inch, foot, yard, and mile		x		t
3. Measure the lengths of objects to the nearest centimeter		x		t
4. Apply the units of linear metric measurement: meter, centimeter, and millimeter		x		t
5. Apply the units of liquid measurement:cup, quart, gallon, and pint		x		t
6. Apply the units of weight: ounce and pound		x		t
7. Read temperatures accurately on the Celsius thermometer	x			ot
8. Read temperatures accurately on the Fahrenheit thermometer			x	ot
9. Tell time to the nearest minute			x	otu
10. Recall the days of the week and months of the year in sequence and recall their durations			x	ot

SUGGESTED RESOURCES: C 1-10

The Classroom Organizer [Kit]. New York: Holt, Rinehart, Winston, 1981, Grade 4. Contents:

Placement and Final Tests
Cumulative Tests
Answers
Software Information
Problem Solving
Logical Reasoning
Calculator/Computer
Enrichment
Practice/Drill
Manipulators
Home Involvement
Pre- and Post-Tests

Nichols, Eugene D. et al. Geometry. Holt Mathematics Tapes, [Sound Recordings]. GG, 25-32, cassette with 48 p. duplicating masters to set, Grade 4, 6 cassettes.

GOAL D: UNDERSTAND AND APPLY THE FOLLOWING GEOMETRICAL CONCEPTS.

OBJECTIVES: The student will:	I	R	M	E
1. Distinguish and identify straight line, curve, and closed and open figures		x		t
2. Distinguish and identify the basic shapes: square, circle, triangle and rectangle			x	t
3. Identify polygons	x			t
4. Distinguish and identify the following solid figures: cone, cylinder, sphere, and cube	x			t
5. Distinguish and identify a prism	x			t
6. Determine the perimeter of a square, rectangle and triangle by the addition of the lengths of their sides		x		tu
7. Determine the area of a square and rectangle by adding square units		x		tu

SUGGESTED RESOURCES: D 1-7

The Classroom Organizer [Kit]. New York: Holt, Rinehart, Winston, 1981, Grade 4. Contents:

Placement and Final Tests
Cumulative Tests
Answers
Software Information
Problem Solving
Logical Reasoning
Calculator/Computer
Enrichment
Practice/Drill
Manipulators
Home Involvement
Pre- and Post-Tests

Holt Mathematics Filmstrip. Graphing Ordered Paris, [Filmstrip and Cassette]. New York: Holt, Rinehart, Winston, 1981.

GOAL E: UNDERSTAND AND APPLY THE FOLLOWING CONCEPTS OF PROBABILITY AND STATISTICS.

OBJECTIVES: The student will:	I	R	M	E
1. Read and explain data presented on pictographs		x		t
2. Read and explain data presented on bar graphs		x		t
3. Read and explain data presented on line graphs		x		t

SUGGESTED RESOURCES: E 1-3

The Classroom Organizer [Kit]. New York: Holt, Rinehart, Winston, 1981, Grade 4. Contents:

Placement and Final Tests	Calculator/Computer
Cumulative Tests	Enrichment
Answers	Practice/Drill
Software Information	Manipulators
Problem Solving	Home Involvement
Logical Reasoning	Pre- and Post-Tests

Holt Mathematics Filmstrips. Graphing Ordered Pairs. [Filmstrip and Cassette] New York: Holt, Rinehart, Winston, 1981.

GOAL A: COMPUTE USING WHOLE NUMBERS, FRACTIONS, AND DECIMALS.

OBJECTIVES: The student will:

		I	R	M	E
1.	Add columns of 3 or more 5 and 6 digit numbers with renaming	x			tu
2.	Add and subtract 6-digit numbers with renaming			x	tu
3.	Estimate the sums and differences of 4-digit numbers	x			t
4.	Add and simplify like and unlike fractions with renaming		x		tu
5.	Add and simplify mixed numbers with renaming		x		tu
6.	Subtract and simplify like and unlike fractions with renaming		x		t
7.	Subtract and simplify mixed numbers with renaming		x		tu
8.	Add and subtract amounts of money through thousands of dollars and cents with renaming			x	tu
9.	Estimate sums and differences of amounts of money by rounding the amounts to the nearest dollar	x			tu
10.	Add and subtract decimal numbers through thousandths with renaming	x			tu
11.	Recall basic multiplication facts through 12 x 12			x	tu
12.	Estimate the products of 4-digit by 3-digit numbers	x			tu
13.	Multiply 4-digit numbers by 3-digit numbers with renaming			x	tu
14.	Multiply and simplify like and unlike fractions	x			tu
15.	Multiply and simplify mixed numbers	x			tu
16.	Multiply amounts of money by 3-digit whole numbers			x	t
17.	Compute the quotient and remainder using 2-digit divisors and 5-digit dividends			x	tu
18.	Divide amounts of money by 2-digit divisors			x	t
19.	Solve word problems in one step using any operation (+, −, x, ÷)		x		tu
20.	Solve word problems in 2 steps using any 2 operations (+, −, x, ÷)		x		t

SUGGESTED RESOURCES: A 1-20

The Classroom Organizer [Kit]. New York: Holt, Rinehart, Winston, 1981, Grade 5. Contents:

- Placement and Final Tests
- Cumulative Tests
- Answers
- Software Information
- Problem Solving
- Logical Reasoning
- Calculator/Computer
- Enrichment
- Practice/Drill
- Manipulators
- Home Involvement
- Pre- and Post-Tests

Demolition Division [Software]. Allen, TX: Developmental Learning Materials, 1983.

Dragon Mix [Software]. Allen, TX: Developmental Learning Materials, 1983.

Fraction Disks [Game]. Springfield, MA: Milton Bradley Company.

Individualized Mathematics Level CC. [Kit]. Westminister, MD: Random House.

Nichols, Eugene D. et al. "Algorithms," Holt Math Tape, [Sound Recording]. AA, Cassette with 48 p. duplicating masters to set grade 5, 6 cassettes.

Nichols, Eugene D. et al."Fractions". Holt Math Tape, [Sound Recording] FF, Cassette with 48 p. duplicating masters to set, grade 5, 6 cassettes.

Nichols, Eugene D. et al."Problems Solving", Holt Math Tape, [Sound Recording] PS, Cassette with 48 p. duplicating masters to set, grade 5, 6 cassettes.

GOAL B: UNDERSTAND THE FOLLOWING BASIC CONCEPTS OF NUMBERS AND NUMERATION.

OBJECTIVES: The student will:

		I	R	M	E
1.	Read and write numbers through billions			x	t
2.	Count backward and forward by using 2's, 5's, and 10's			x	ot
3.	Order a sequence of numbers through millions		x		t
4.	Use ordinal numbers 1st - 1,000th to show position			x	ot
5.	State place values of number to billions			x	o
6.	Read and write Roman numerals for 1 - 3,999		x		t
7.	Round money amounts to the nearest ten cents and dollar			x	t
8.	Round decimals to the nearest millionth			x	t
9.	Round decimals to the nearest whole number	x			tu
10.	Compare numbers by using these symbols: >, <, =		x		t
11.	Determine whether a given number is prime or composite	x			t

SUGGESTED RESOURCES: B 1-11

The Classroom Organizer [Kit]. New York: Holt, Rinehart, Winston, 1981, Grade 5. Contents:

Placement and Final Tests
Cumulative Tests
Answers
Software Information
Problem Solving
Logical Reasoning
Calculator/Computer
Enrichment
Practice/Drill
Manipulators
Home Involvement
Pre- and Post-Tests

Nichols, Eugene D. et al. "Number Numeration/Decimals," Holt Math Tapes, [Sound Recordings]. ND, Cassettes with 48 p. duplicating masters to set, Grade 5, 6 cassettes.

GOAL C: UNDERSTAND AND APPLY THE CONCEPTS OF MEASUREMENT.

OBJECTIVES: The student will:	I	R	M	E
1. Measure objects to the nearest 1/8 of an inch			x	t
2. Measure objects to the nearest meter, centimeter, millimeter		x		t
3. Select the appropriate unit of measure in the British System for a given length or distance (inch, foot, yard, mile)		x		tu
4. Select the appropriate unit of measure in the metric system for a given length or distance (millimeter, centimeter, meter or kilometer)		x		tu
5. Select the appropriate unit of measure in the metric system for a given liquid volume or mass (milliliter, liter, gram, kilogram, or metric ton)	x			tu
6. Identify cups, pints quarts, gallons, and ounces as units of capacity in the customary system		x		t
7. Measure temperature on Celsius and Fahrenheit thermometers		x		t
8. Add and subtract hours and minutes with renaming	x			t

SUGGESTED RESOURCES: C 1-8

The Classroom Organizer [Kit]. New York: Holt, Rinehart, Winston, 1981, Grade 5. Contents:

- Placement and Final Tests
- Cumulative Tests
- Answers
- Software Information
- Problem Solving
- Logical Reasoning
- Calculator/Computer
- Enrichment
- Practice/Drill
- Manipulators
- Home Involvement
- Pre- and Post-Tests

Nichols, Eugene D. et al. Measurement. Holt Math Tape, [Sound Recording]. MM, Cassettes with 48 p. duplicating master to set, Grade 5, 6 cassettes.

GOAL D: UNDERSTAND AND APPLY THE FOLLOWING GEOMETRIC CONCEPTS.

OBJECTIVES: The student will:	I	R	M	E
1. Identify points, lines, line segments, curves, open and closed figures		x		t
2. Name angles	x			t
3. Identify right, acute and obtuse angles	x			tu
4. Identify parallel, intersecting, and perpendicular lines	x			t
5. Identify polygons quadrilaterals, trapezoids, rectangles and squares	x			t
6. Identify radii and diameters of circles	x			t
7. Identify solid shapes (cubes, cones, cylinders, spheres, rectangular and triangular prisms)		x		t
8. Determine the perimeter of a rectangle, square and other polygons		x		tu
9. Determine the area of squares and rectangles by counting square units		x		tu

SUGGESTED RESOURCES: D 1-9

Apple Logo, [Software], Quebec, Canada: Logo Computer Systems, Inc. 1982.

The Classroom Organizer [Kit]. New York: Holt, Rinehart, Winston, 1981, Grade 5. Contents:

Placement and Final Tests
Cumulative Tests
Answers
Software Information
Problem Solving
Logical Reasoning
Calculator/Computer
Enrichment
Practice/Drill
Manipulators
Home Involvement
Pre- and Post-Tests

Nichols, Eugene D. et al."Geometry". Holt Math Tape. [Sound Recording]. GG, Cassettes with 48 p. duplicating master to set, Grade 5, 6 cassettes.

GOAL E: UNDERSTAND AND APPLY THE FOLLOWING CONCEPTS OF PROBABILITY AND STATISTICS.

OBJECTIVES: The student will:

	I	R	M	E
1. Read and interpret pictographs, bar graphs, and line graphs		x		t
2. Read and interpret circle graphs	x			t

SUGGESTED RESOURCES: E 1,2

The Classroom Organizer [Kit]. New York: Holt, Rinehart, Winston, 1981, Grade 5. Contents:

Placement and Final Tests
Cumulative Tests
Answers
Software Information
Problem Solving
Logical Reasoning
Calculator/Computer
Enrichment
Practice/Drill
Manipulators
Home Involvement
Pre- and Post-Tests

GOAL F: UNDERSTAND AND APPLY THE FOLLOWING CONCEPTS OF RATIO.

OBJECTIVES: The student will:

	I	R	M	E
1. Write ratios fractions	x			tu
2. Write fractions in ratio form	x			tu

SUGGESTED RESOURCES: F 1,2

The Classroom Organizer [Kit]. New York: Holt, Rinehart, Winston, 1981, Grade 5. Contents:

Placement and Final Tests
Cumulative Tests
Answers
Software Information
Problem Solving
Logical Reasoning
Calculator/Computer
Enrichment
Practice/Drill
Manipulators
Home Involvement
Pre- and Post-Tests

MATHEMATICS CURRICULUM
TEXT: Holt Mathematics

6.1

GOAL A: COMPUTE USING WHOLE NUMBERS, DECIMALS, AND FRACTIONS.

OBJECTIVES: The student will:

		I	R	M	E
1.	Add two or more whole numbers with/without renaming			x	tu
2.	Subtract and 2 whole numbers with/without renaming			x	tu
3.	Estimate the sums of 2 or more whole numbers including monetary amounts		x		t
4.	Estimate the differences of any 2 whole numbers including monetary amounts		x		t
5.	Recall the multiplication tables of products up to 144 (1 - 12's tables)			x	ot
6.	Recall the inverse division facts of products up to 144 (1 -12's tables)			x	t
7.	Estimate products of given multiplication problems with whole numbers including monetary amounts		x		t
8.	Estimate the first digit of a quotient by rounding the divisor		x		t
9.	Multiply 1 through 5 digit factors with whole and decimal numbers			x	tu
10.	Divide with 1, or 2 or 3 digit divisors with/ without remainders using whole and decimal numbers			x	tu
11.	Place correctly the decimal point in any additional, subtraction, multiplication of division problem			x	t
12.	Multiply or divide whole or decimal numbers by 10 and the powers of 10		x		tu
13.	Add and subtract like/unlike proper, improper and mixed fractions with renaming in lowest terms			x	tu
14.	Multiply and divide proper, improper and mixed numbered fractions with renaming in lowest terms			x	tu
15.	Divide by common factors, if any, before multiplying of dividing fractions			x	t
16.	Find the reciprocal of a given number			x	t
17.	Express one fraction equivalent to other fraction			x	t
18.	Construct number sentences for single or multiple step word problems using any or all operations involving whole, decimal or fractional numbers		x		tu
19.	Solve single or multiple step word problems using any or all operations involving whole, decimal or fractional numbers		x		tu
20.	Add or subtract decimal numbers through the millionths			x	tu
21.	Add or subtract decimal numbers through the millionths			x	tu
22.	Compute the dividend when divisor and quotient are known		x		t

SUGGESTED RESOURCES: A 1-22

The Classroom Organizer [Kit]. New York: Holt, Rinehart, Winston, 1981, Grade 6. Contents:

Placement and Final Tests
Cumulative Tests
Answers
Software Information
Problem Solving
Logical Reasoning
Calculator/Computer
Enrichment
Practice/Drill
Manipulators
Home Involvement
Pre- and Post-Tests

Demolition Division [Software], Allen, TX: Developmental Learning Materials, 1983.

Dragon Mix [Software], Allen, TX: Developmental Learning Materials, 1983.

Holt Mathematics Filmstrips. Decimals. [Filmstrip and cassette]. New York: Holt, Rinehart, Winston, 1981.

Holt Mathematics Filmstrips. Division of Fractions. [Filmstrip and cassette]. New York: Holt, Rinehart, Winston, 1981.

Holt Mathematics Filmstrips. Long Division (2 and 3 digit answers). [Filmstrip and cassette]. New York: Holt, Rinehart, Winston, 1981.

Meteor Multiplication [Software], Allen, TX: Developmental Learning Materials, 1983.

Nichols, Eugene D. et al. Division with Decimals. Holt Mathematics Tapes, [Sound Recording]. DD 1-4, cassette, accompanied by worksheets, (48 pp.) 1974.

Nichols, Eugene D. et al. Fractions. Holt Mathematics Tapes, [Sound Recording]. DD 17-20, cassette accompanied by worksheets, (48 pp.), 1974.

Nichols, Eugene D. et al. Problem Solving. Holt Mathematics Tapes, [Sound Recording]. DD, 41-44, cassette accompanied by worksheets, (48 pp.), 1974.

GOAL B: KNOW THE FOLLOWING NUMBER PROPERTIES.	I	R	M	E
OBJECTIVES: The student will:				
1. Read and write whole numbers through hundred billions			x	to
2. Read and write decimal numbers through millionths			x	tu
3. Write a standard number for a corresponding expanded notation			x	tu
4. Expand whole or decimal numbers using the exponents of 10 and 1/10			x	t
5. Identify place value of any number in a whole or decimal number			x	to
6. Express a fraction as a decimal and a decimal as a fraction			x	tu
7. Identify place or location using ordinal numbers			x	t
8. Distinguish between prime and composite numbers up to 100			x	t

		I	R	M	E
9.	Round whole numbers to the nearest ten through the nearest million and decimal numbers to the nearest tenth through the nearest millionth			x	t
10.	Write the standard number for a base raised to an exponent		x		tu
11.	Factor a composite number using only prime factors			x	t
12.	Distinguish between multiples and factors			x	t
13.	List the common factors of 2 or more numbers			x	tu
14.	List the common multiples of 2 or more numbers			x	tu
15.	Find the greatest common factor of 2 or more numbers			x	tu
16.	Find the least common multiple of 2 or more numbers			x	tu
17.	Determine the divisibility of a given number by 2, 3, 5, 6, 9, 10		x		t
18.	Convert base ten numbers to Roman Numerals and Roman numerals to base ten numbers through 3,999		x		t
19.	Compare numbers by using these symbols $>$ $<$, $\geq$ $\leq$, $=$, $\neq$			x	t

SUGGESTED RESOURCES: B 1-19

The Classroom Organizer [Kit]. New York: Holt, Rinehart, Winston, 1981, Grade 6. Contents:

Placement and Final Tests
Cumulative Tests
Answers
Software Information
Problem Solving
Logical Reasoning
Calculator/Computer
Enrichment
Practice/Drill
Manipulators
Home Involvement
Pre- and Post-Tests

Fraction Factory [Software]. Minneapolis, MN: Springboard, 1984.

Fraction Fever [Software]. Cambridge, MA: Spinnaker, 1983.

Holt Mathematics Filmstrip Number Theory. [Filmstrip with cassette]. New York: Holt, Rinehart, Winston, 1981.

Nichols, Eugene D. et al. "Fractions," DD 17-20, cassette accompanied by worksheets (48 pp), 1974.

Nichols, Eugene D. et al. "Number Numeration/Decimals," Holt Mathematics Tapes. [Sound Recording]. DD 9-12, cassette accompanied by worksheets, (48 pp), 1974.

GOAL C: UNDERSTAND AND BE ABLE TO APPLY THE CONCEPT OF MEASUREMENT.

OBJECTIVES: The student will:

		I	R	M	E
1.	Measure objects to the nearest 1/16 of an inch		x		t
2.	Measure objects to the nearest millimeter		x		t
3.	Convert smaller units of measurement to larger units and larger to smaller units using both the metric and British Systems		x		tu
4.	Identify and use British units of distance, capacity, and weight		x		tu
5.	Read both the Fahrenheit and Celsius thermometer			x	tu
6.	Make changes between Time Zones	x			tu
7.	Make the appropriate changes for units of time	x			tu

SUGGESTED RESOURCES: C 1-7

The Classroom Organizer [Kit]. New York: Holt, Rinehart, Winston, 1981, Grade 6. Contents:

Placement and Final Tests
Cumulative Tests
Answers
Software Information
Problem Solving
Logical Reasoning
Calculator/Computer
Enrichment
Practice/Drill
Manipulators
Home Involvement
Pre- and Post-Tests

Holt Mathematics Filmstrip, Metric System-Linear: Part 2 [Filmstrip and cassette]. New York: Holt, Rinehart, Winston, 1981.

Nichols, Eugene D. et al. "Measurement," Holt Mathematics Tapes, [Sound Recording]. Accompanied by worksheets, (48pp), 1974.

GOAL D: UNDERSTAND AND APPLY THE FOLLOWING GEOMETRIC CONCEPTS.

OBJECTIVES: The student will:

	I	R	M	E
1. Define such terms as line, line segment, ray, angle, polygon, quadrilateral, rectangle, and square and parallel and perpendicular lines			x	t
2. Display competency in measuring angles with a protractor		x		tu
3. Find the perimeter of a geometric figure using a formula		x		tu
4. Find the area of a rectangle, square and a triangle using a formula		x		tu
5. Identify geometric solids such as cubes, cylinders, cones, and prisms	x			ot
6. Find the volume of a cube and rectangular prism using a formula	x			t
7. Identify acute, right and obtuse angles		x		t
8. Find the circumference and area of a circle using a formula when given a radius or diameter	x			tu
9. Solve word problems involving area, perimeter and volume	x			tu

SUGGESTED RESOURCES: D 1-9

The Classroom Organizer [Kit]. New York: Holt, Rinehart and Winston, 1981, Grade 6. Contents

Placement and Final Tests
Cumulative Tests
Answers
Software Information
Problem Solving
Logical Reasoning
Calculator/Computer
Enrichment
Practice/Drill
Manipulators
Home Involvement
Pre- and Post-Tests

Holt Mathematics Filmstrip. Area. [Filmstrip and cassette]. 41, New York: Holt, Rinehart, Winston, 1981.

Nichols, Eugene D. et al. Holt Mathematics Tapes, [Sound Recording] Accompanied by worksheets, (48pp), 1974.

GOAL E: UNDERSTAND AND APPLY THE FOLLOWING CONCEPTS OF PROBABILITY AND STATISTICS.

OBJECTIVES: The student will:

	I	R	M	E
1. Read and interpret a circle, bar, line, and pictograph		x		t
2. Compute the average of a given set of numbers			x	tu

SUGGESTED RESOURCES: E 1,2

The Classroom Organizer [Kit]. New York: Holt, Rinehart, Winston, 1981, Grade 6. Contents:

Placement and Final Tests
Cumulative Tests
Answers
Software Information
Problem Solving
Logical Reasoning
Calculator/Computer
Enrichment
Practice/Drill
Manipulators
Home Involvement
Pre- and Post-Tests

Holt Mathematics Filmstrip, Graphing Statistical Data [Filmstrip and cassette]. New York: Holt, Rinehart, Winston, 1981.

GOAL F: UNDERSTAND AND APPLY THE FOLLOWING CONCEPTS OF RATION.

OBJECTIVES: The student will:

	I	R	M	E
1. Express ratio		x		t
2. Identify and name equivalent ratios		x		tu
3. Use cross-products to find a missing number	x			tp
4. Write and solve a proportion to solve a word problem	x			tu
5. Write a percent as a ratio	x			tu
6. Find a percent of a given number	x			tu

SUGGESTED RESOURCES: F 1-6

The Classroom Organizer [Kit]. New York: Holt, Rinehart, Winston, 1981, Grade 6. Contents:

Placement and Final Tests
Cumulative Tests
Answers
Software Information
Problem Solving
Logical Reasoning
Calculator/Computer
Enrichment
Practice/Drill
Manipulators
Home Involvement
Pre- and Post-Tests

Holt Mathematics Filmstrip. Introduction to Percent [Filmstrip and cassette]. New York: Holt, Rinehart, Winston, 1981.

Nichols, Eugene D. et al. "Problem Solving," Holt Mathematics Tapes, [Sound Recording] Accompanied by worksheets, (48pp), 1974.

GOAL G: DEMONSTRATE HIS KNOWLEDGE OF INTEGERS.	I	R	M	E
OBJECTIVES: The student will:				
1. Add and subtract integers using a number line	x			tu
2. Add and subtract integers to sums of 20	x			t

SUGGESTED RESOURCES: G 1,2

The Classroom Organizer [Kit]. New York: Holt, Rinehart, Winston, 1981, Grade 6. Contents:

Placement and Final Tests
Cumulative Tests
Answers
Software Information
Problem Solving
Logical Reasoning
Calculator/Computer
Enrichment
Practice/Drill
Manipulators
Home Involvement
Pre- and Post-Tests

MATHEMATICS CURRICULUM
TEXT: Holt Mathematics

GOAL A: DEMONSTRATE COMPETENCE IN PERFORMING THE FOUR BASIC OPERATIONS ON WHOLE NUMBERS, FRACTIONS AND DECIMALS.

OBJECTIVES: The student will:

	I	R	M	E
1. Add any number of whole number addends with any number of digits			x	tu
2. Subtract any lesser number from a greater number			x	tu
3. Multiply any two whole numbers			x	tu
4. Divide any whole number by a divisor of no more than three digits, expressing the quotient as a whole or mixed number			x	tu
5. Select information needed to solve word problems		x		t
6. Use the appropriate operation(s) to solve word problems		x		tu
7. Check for reasonableness of answers by estimating		x		tu
8. Add like or unlike, common, improper, and mixed fractions, renaming sums in simplest form		x		tu
9. Subtract any lesser like or unlike fractions from a greater fraction, renaming differences in simplest form		x		tu
10. Multiply any fractions using any number of factors, renaming products in simplest form			x	tu
11. Divide any fractions renaming quotients in simplest form			x	tu
12. Select information needed to solve word problems including fractions		x		tu
13. Use the appropriate operation(s) to solve word problems including fractions		x		tu
14. Check for reasonableness of answers by estimating including fractions		x		tu
15. Add any number of addends with decimals			x	tu
16. Subtract any lesser decimal from a greater decimal			x	tu
17. Multiply any 2 decimal factors			x	tu
18. Divide any dividend by a divisor having as many as three digits, and express the quotient as a terminating or repeating decimal, or as a mixed number		x		tu

SUGGESTED RESOURCES: A 1-18

The Classroom Organizer [Kit]. New York: Holt, Rinehart, Winston, 1981, 1 kit containing black line masters, pre and post-tests, cumulative tests, extra practice sheets, drill sheets, enrichment masters, home involvement sheets, software information. Answers are included.

Holt Math Filmstrip. Equations and Inequalities [Filmstrip and cassette]. New York: Holt, Rinehart, Winston, 1981.

Nichols, Eugene D. et al. "Fractions," Holt Math Tapes [Sound Recording]. Accompanied by 48 pp. duplicating master to set, Grade 7, 6 cassettes.

Nichols, Eugene D. et al. "Problem Solving," Holt Math Tapes, [Sound Recording]. Accompanied by 48 pp. duplicating master to set, Grade 7, 6 cassettes.

GOAL B: DEMONSTRATE A PROFICIENCY IN READING AND WRITING NUMBERS.

OBJECTIVES: The student will:

		I	R	M	E
1.	Identify, read and write numbers through 100,000,000,000			x	otu
2.	Order numbers up to 100,000,000,000			x	t
3.	Write whole numbers to 100,000,000,000 in expanded notation (in preparation for scientific notation)	x			tu
4.	Use exponential notation as a short form of writing like factors	x			tu
5.	Use the correct order of operations when more than one operation is involved	x			tu
6.	Apply the commutative and associative properties of addition and multiplication		x		t
7.	Apply the distributive law of multiplication over addition or subtraction	x			t
8.	Determine if an integer up to 100 is prime or composite		x		t
9.	Factor a composite number into the product of primes		x		tu
10.	Recognize symbols of operation, comparison and inclusion x, ÷, +, −, ⟌, —, =, <, ≤, >, ≥, ( ), { }, ≠		x		t

SUGGESTED RESOURCES: B 1-10

The Classroom Organizer [Kit]. New York: Holt, Rinehart, Winston, 1981, 1 kit containing black line masters, pre and post-tests, cumulative tests, extra practice sheets, drill sheets, enrichment masters, home involvement sheets, software information. Answers are included.

GOAL C: DEMONSTRATE THE ABILITY TO MEASURE IN THE BRITISH AND METRIC SYSTEMS.

OBJECTIVES: The student will:

		I	R	M	E
1.	Use a ruler to measure to the nearest 1/16 of an inch and nearest inch		x		t
2.	Change measurements within each system (inches to feet, yard, mile, and millimeter to centimeter to meter to kilometer)		x		tu
3.	Change measurements within each system (pint to quart to gallon, and milliliter to liter to kiloliter)		x		tu
4.	Change measurements within each system (ounce to pound to ton and milligram to gram and kilogram)		x		tu

SUGGESTED RESOURCES: C 1-4

The Classroom Organizer [Kit]. New York: Holt, Rinehart, Winston, 1981, 1 kit containing black line masters, pre and post-tests, cumulative tests, extra practice sheets, drill sheets, enrichment masters, home involvement sheets, software information. Answers are included.

Holt Math Filmstrip. Metric System. [Filmstrip and cassette]. New York: Holt, Rinehart, Winston, 1981.

Nichols, Eugene D. et al. "Measurement, Coordinate Geometry," Holt Math Tapes. [Sound Recording]. MC 1-8, 6 cassettes w/48 p. duplicating master to set, Grade 7, 6 cassettes.

Survival Math [Software]. Pleasantville, NY: Sunburst, 1982.

GOAL D: KNOW THE TERMS, DEFINITIONS, AND APPLICATIONS OF GEOMETRY.

OBJECTIVES: The student will:

	I	R	M	E
1. Recognize triangles, quadrilaterals, pentagons, hexagons and octagons		x		tu
2. Compute, by formula, the area of triangles squares, rectangles, and circles		x		tu
3. Compute the perimeter of any polygon and the circumference of any circle	x			tu
4. Compute, by formula, the surface area of a cylinder and rectangular prism	x			tu
5. Compute, by formula, the volume of a cube, a rectangular prism, and a cylinder	x			tu
6. Recognize, name, and label acute, right, and obtuse angles and triangles		x		tu
7. Use a protractor to measure and draw angles		x		tu
8. Use compasses to construct angle and line segment bisector	x			tu
9. Use compasses to construct an angle congruent to a given angle	x			tu
10. Read and use the following symbols ⊥, ∟, ≅, ||	x			otu

SUGGESTED RESOURCES: D 1-10

The Classroom Organizer [Kit]. New York: Holt, Rinehart, Winston, 1981, 1 kit containing black line masters, pre and post-tests, cumulative tests, extra practice sheets, drill sheets, enrichment masters, home involvement sheets, software information. Answers are included.

Holt Math Filmstrips, Coordinate Geometry [Filmstrip and cassette]. New York: Holt, Rinehart, Winston, 1981.

Holt Math Filmstrip. Parallel Lines and Angles [Filmstrip and cassette]. New York: Holt, Rinehart, Winston, 1981.

Nichols, Eugene D. et al. "Geometry," Holt Math Tapes. [Sound Recording]. GG 49-56 pp. duplicating master to set, Grade 7, 6 cassettes.

Survival Math [Software]. Pleasantville, NY: Sunburst, 1982.

GOAL E: UNDERSTAND AND APPLY THE CONCEPTS OF STATISTICS.

OBJECTIVES: The student will:

	I	R	M	E
1. Read and interpret data from pictographs, bar graphs, line graphs and circle graphs		x		otp
2. Organize data to construct pictographs, bar graphs, line graphs, and circle graphs		x		tpu
3. Compute mean, median, mode and range from a given set of data		x		tu

SUGGESTED RESOURCES: E 1-3

The Classroom Organizer [Kit]. New York: Holt, Rinehart, Winston, 1981, 1 kit containing black line masters, pre and post-tests, cumulative tests, extra practice sheets, drill sheets, enrichment masters, home involvement sheets, software information. Answers are included.

Holt Math Filmstrip. Probability [Filmstrip and cassette]. New York: Holt, Rinehart, Winston, 1981.

GOAL F: UNDERSTAND AND APPLY THE CONCEPT OF RATIO, PROPORTION, AND PERCENTAGE.

OBJECTIVES: The student will:

	I	R	M	E
1. Express percents as fractions with denominators of 100			x	tu
2. Express percents as decimals and as common fractions		x		tu
3. Express any fraction as a percent		x		tu
4. Find a percent of a given number	x			tu
5. Solve word problems involving finding a percent of a given number	x			tu

SUGGESTED RESOURCES: F 1-5

The Classroom Organizer [Kit]. New York: Holt, Rinehart, Winston, 1981, 1 kit containing black line masters, pre and post-tests, cumulative tests, extra practice sheets, drill sheets, enrichment masters, home involvement sheets, software information. Answers are included.

Holt Math Filmstrip, Percent [Filmstrip and cassette]. New York: Holt, Rinehart, Winston, 1981.

Nichols, Eugene D. et al. "Decimals-Percent," Holt Math Tapes, [Sound Recording] DP, 1-8, 6 cassettes with 48 pp, duplicating master to set, Grade 7.

GOAL G: DEMONSTRATE A KNOWLEDGE OF THE INTEGER.

OBJECTIVES: The student will:

	I	R	M	E
1. Recognize and graph points on the number line	x			otu
2. Compare and order two or more integers	x			tu
3. Compare and order two or more rational numbers		x		tu

SUGGESTED RESOURCES: G 1-3

The Classroom Organizer [Kit]. New York: Holt, Rinehart, Winston, 1981, 1 kit containing black line masters, pre and post-tests, cumulative tests, extra practice sheets, drill sheets, enrichment masters, home involvement sheets, software information. Answers are included.

Holt Math Filmstrip. Integers: Addition and Subtraction. [Filmstrip and cassette]. New York: Holt, Rinehart, Winston, 1981.

Holt Math Filmstrip. Integers: Multiplication and Division. [Filmstrip and cassette]. New York: Holt, Rinehart, Winston, 1981.

Nichols, Eugene D. et al. "Integers," Holt Math Tapes, [Sound Recording]. II 1-8, 6 cassettes with 48 pp. duplicating master to set, Grade 7.

GOAL A: DEMONSTRATE COMPETENCE IN PERFORMING THE FOUR BASIC OPERATIONS ON WHOLE NUMBERS, FRACTIONS AND DECIMALS.

OBJECTIVES: The student will:

		I	R	M	E
1.	Add any number of whole addends with any number of digits			x	tu
2.	Subtract any lesser number from a greater number			x	tu
3.	Multiply any two whole numbers			x	tu
4.	Divide any whole number by a divisor of no more than three digits, expressing the quotient as a mixed number			x	tu
5.	Select information needed to solve word problems		x		t
6.	Use the appropriate operation(s) to solve word problems		x		tu
7.	Check for reasonableness of answers by estimating		x		tu
8.	Add like or unlike, proper and improper fractions, and mixed numbers renaming sums in simplest form		x		tu
9.	Subtract any lesser like or unlike fraction from a greater fraction, renaming difference in simplest form		x		tu
10.	Multiply any fractions using any number of factors, renaming products in simplest form			x	tu
11.	Divide any fractions, renaming quotients in simplest form			x	t
12.	Select information needed to solve word problems including fractions			x	t
13.	Use the appropriate operation(s) to solve word problems (fractions)		x		tu
14.	Check for reasonableness of answers by estimating		x		tu
15.	Add any number of addends involving decimals			x	tu
16.	Subtract any lesser decimal from a greater decimal			x	tu
17.	Multiply any two decimal factors			x	tu
18.	Divide any dividend by a three-digit divisor expressing quotient as a terminating or repeating decimal or as a mixed number		x		tu
19.	Round off decimals to the nearest tenths, hundredths, thousandths, or ten thousandths		x		tu

SUGGESTED RESOURCES: A 1-19

The Classroom Organizer [Kit]. New York: Holt, Rinehart, Winston, 1981, 1 kit containing black line masters, pre and post-tests, cumulative tests, extra practice sheets, drill sheets, enrichment masters, home involvement sheets, software information. Answers are included.

Holt Math Filmstrip. Real Numbers [Filmstrip and cassette]. New York: Holt, Rinehart, Winston, 1981.

Nichols, Eugene D. et al. "Equations Inequations, Coordinate Geometry," Holt Math Tapes, [Sound Recording]. EC 1-8, 6 cassettes with 48 pp. duplicating master to set, grade 8.

Nichols, Eugene D. et al. "Problem Solving," Holt Math Tapes, [Sound Recording] PS, 57-64, 6 cassettes with 48 p. duplicating master to set, Grade 8.

Nichols, Eugene D. et al. "Real and Rational Numbers," Holt Math Tapes, [Sound Recording] RR, 1-8, 6 cassettes with 48 pp. duplicating master to set, grade 8.

Survival Math [Software]. Pleasantville, NY: Sunburst, 1982.

GOAL B: DEMONSTRATE A PROFICIENCY IN READING AND WRITING NUMBERS.

OBJECTIVES: The student will:

		I	R	M	E
1.	Write whole numbers to 100,000,000,000 in expanded notation (in preparation for scientific notation			x	tu
2.	Recognize numbers written use exponential notation as a short form of writing like factors		x		tu
3.	Apply the commutative and associative properties of addition and multiplication		x		t
4.	Apply distributive law of multiplication over addition or subtraction		x		t
5.	Determine, if a whole number up to 100 is prime or composite			x	t
6.	Factor a composite number into the product of primes			x	tu
7.	Recognize symbols of operation, comparison and inclusion +, -, x, ÷, —, ⟌, <, ≤, >, ≥, =, ( ), { } ≠			x	t

SUGGESTED RESOURCES: B 1-7

The Classroom Organizer [Kit]. New York: Holt, Rinehart, Winston, 1981, 1 kit containing black line masters, pre and post-tests, cumulative tests, extra practice sheets, drill sheets, enrichment masters, home involvement sheets, software information. Answers are included.

Holt Math Filmstrip. Equations: Using the Properties. [Filmstrip and cassette]. New York: Holt, Rinehart, Winston, 1981.

Holt Math Filmstrip. Numeration Systems [Filmstrip and cassette]. New York: Holt, Rinehart, Winston, 1981.

Holt Math Filmstrip. Scientific Notation. [Filmstrip and cassette]. New York: Holt, Rinehart, Winston, 1981.

GOAL C: DEMONSTRATE AN ABILITY TO MEASURE IN THE BRITISH AND METRIC SYSTEMS.

OBJECTIVES: The student will:

		I	R	M	E
1.	Use a ruler to measure to nearest 1/16 of an inch and nearest inch			x	t
2.	Use a meter stick to measure to the nearest millimeter			x	t
3.	Change measurements within each system (inches to feet, yard, mile and millimeter, centimeter, to meter to kilometer)			x	tu
4.	Change measurements within each system (cup to pint, quart to gallon, millimeter to liter to kiloliter)			x	tu
5.	Change measurements within each system (ounce to pound to ton and milligram to gram and kilogram)			x	tu

SUGGESTED RESOURCES: C 1-5

The Classroom Organizer [Kit]. New York: Holt, Rinehart, Winston, 1981, 1 kit containing black line masters, pre and post-tests, cumulative tests, extra practice sheets, drill sheets, enrichment masters, home involvement sheets, software information. Answers are included.

Nichols, Eugene D. et al. "Decimals Measurement," Holt Math Tapes, [Sound Recording] D.M 1-8, 6 cassettes with 48 pp. duplicating master to set, Grade 8.

Survival Math [Software]. Pleasantville, NY: Sunburst, 1982.

GOAL D: KNOW THE TERMS, DEFINITIONS, AND APPLICATIONS OF GEOMETRY.

OBJECTIVES: The student will:

	I	R	M	E
1. Recognize triangles, quadrilaterals, pentagons, hexagons, and octagons, and trapezoids		x		tu
2. Compute, by formula, the area of triangles, squares, rectangles, parallelograms, circles, and trapezoids			x	tu
3. Compute the perimeter of any polygon and the circumference of any circle		x		tu
4. Compute, by formula, surface area of a cylinder and rectangular prism		x		tu
5. Compute, by formula, volume of a cube, a rectangular prism and a cylinder		x		tu
6. Recognize, name and label acute, right, and obtuse angles and isosceles, scalene, and equilateral triangles			x	tu
7. Use a protractor to measure and draw angles			x	tu
8. Use compasses to construct angle and line segment bisectors			x	tu
9. Use compasses to construct an angle congruent to a given angle			x	tu
10. Read and use the following symbols: 11, $\perp$, L, $\cong$			x	otu

SUGGESTED RESOURCES: D 1-10

The Classroom Organizer [Kit]. New York: Holt, Rinehart, Winston, 1981, 1 kit containing black line masters, pre and post-tests, cumulative tests, extra practice sheets, drill sheets, enrichment masters, home involvement sheets, software information. Answers are included.

Holt Math Filmstrip. Surface Area and Volume [Filmstrip and cassette]. New York: Holt, Rinehart, Winston, 1981.

Nichols, Eugene D. et al. "Geometry," Holt Math Tapes, [Sound Recording]. GG, 57-64, 6 cassettes with 48 pp. duplicating master to set, Grade 8.

Survival Math [Software]. Pleasantville, NY: Sunburst, 1982.

GOAL E: UNDERSTAND AND APPLY THE CONCEPTS OF STATISTICS.

OBJECTIVES: The student will:	I	R	M	E
1. Read and interpret data from pictographs, bar graphs, line graphs, and circle graphs			x	otu
2. Organize data to construct pictographs, bar graphs line graphs, and circle graphs			x	tpu
3. Compute mean, median, mode and range for a given set of data		x		tu

SUGGESTED RESOURCES: E 1-3

The Classroom Organizer [Kit]. New York: Holt, Rinehart, Winston, 1981, 1 kit containing black line masters, pre and post-tests, cumulative tests, extra practice sheets, drill sheets, enrichment masters, home involvement sheets, software information. Answers are included.

Holt Math Filmstrip. Graphing Equations and Inequations [Filmstrip and cassette]. New York: Holt, Rinehart, Winston, 1981.

Holt Math Filmstrip. Interpreting Data [Filmstrip and cassette]. New York: Holt, Rinehart, Winston, 1981.

GOAL F: DEMONSTRATE A KNOWLEDGE OF INTEGERS.

OBJECTIVES: The student will:	I	R	M	E
1. Recognize and graph points on the number line			x	otu
2. Compare and order two or more integers			x	tu
3. Use integers to perform the four basic operations	x			tu

SUGGESTED RESOURCES: F 1-3

The Classroom Organizer [Kit]. New York: Holt, Rinehart, Winston, 1981, 1 kit containing black line masters, pre and post-tests, cumulative tests, extra practice sheets, drill sheets, enrichment masters, home involvement sheets, software information. Answers are included.

Nichols, Eugene D. et al. "Integers, Percent," Holt Math Tapes. [Sound Recording]. I.P. 1-8, 6 cassettes with 48 pp. duplicating master to set, Grade 8.

GOAL G: UNDERSTAND AND APPLY THE CONCEPTS OF RATIO, PROPORTION, AND PERCENTAGE.

OBJECTIVES: The student will:	I	R	M	E
1. Express equivalent forms of a given fraction, decimal, percent		x		tu
2. Find a percent of a given number	x			tu
3. Find the base given the rate and the percentage	x			tu
4. Find the rate given the base and the percentage	x			tu
5. Solve word problems involving percents	x			tu
6. Solve word problems involving interest, discount and taxes	x			tu

SUGGESTED RESOURCES: G 1-6

The Classroom Organizer [Kit]. New York: Holt, Rinehart, Winston, 1981, 1 kit containing black line masters, pre and post-tests, cumulative tests, extra practice sheets, drill sheets, enrichment masters, home involvement sheets, software information. Answers are included.

Holt Math Filmstrip, Applications of Percent [Filmstrip and cassette]. New York: Holt, Rinehart, Winston, 1981.

Nichols, Eugene D. et al. "Integers, Percent," Holt Math Tapes. [Sound Recording]. I.P. 1-8, 6 cassettes with 48 pp. duplicating master to set, Grade 8.

COURSE:Basic Mathematics I

TEXT: Preliminary Mathematics

GOAL A: DEMONSTRATE COMPETENCY IN PERFORMING THE FOUR BASIC OPERATIONS USING WHOLE NUMBERS, FRACTIONS AND DECIMALS.

OBJECTIVES: The student will:		I	R	M	E
1.	Add any number of whole number addends with any number of digits		x		u
2.	Subtract any lesser number from a greater number		x		u
3.	Multiply any two whole numbers		x		u
4.	Divide any whole number by a divisor of no more than three digits, expressing quotient as a mixed number		x		u
5.	Select information needed to solve word problems		x		ou
6.	Use appropriate operation(s) to solve word problems		x		ou
7.	Check for reasonableness of answers by estimating		x		o
8.	Add like or unlike, common, improper and mixed fractions, renaming sums in simplest form		x		u
9.	Subtract any lesser like or unlike fraction, from a greater fraction, renaming differences in simplest form		x		u
10.	Multiply any fractions with any number of factors, renaming products in simplest form		x		u
11.	Divide any fractions, renaming quotients in simplest form		x		u
12.	Select information needed to solve word problems		x		u
13.	Use appropriate operation(s) to solve word problems		x		u
14.	Add any number of addends			x	u
15.	Subtract any lesser decimal from a greater decimal			x	u
16.	Multiply any two decimal factors			x	u
17.	Divide any dividend by a three-digit divisor expressing quotient as a terminating or repeating decimal or as a mixed number		x		u
18.	Round off decimals to the nearest tenths, hundredths, thousandths, or ten thousandths			x	u

SUGGESTED RESOURCES: A 1-18

Harnadek, Anita. Decimals -- 1 Word Problems, [Duplicating Master]. Pacific Grove, CA: Midwest Publications, 1980.

Wilcox and Yarnelle. Masters include work in binary and other bases: names for a number; sets, lines, rays, angles, union; prime numbers and factors; fractions, decimals, percents; number line; equations; ratio and proportion; interest; problem solving; areas; polygons and circles; trigonometry.

Wilcox and Yarnell. Mathematics: A Modern Approach [Duplicating Masters]. Menlo Park, CA: Addison-Wesly Publishing Co., 1969.

GOAL B: DEMONSTRATE A PROFICIENCY IN READING AND WRITING NUMBERS.

OBJECTIVES: The student will:

	I	R	M	E
1. Identify, read and write numbers through 100,000,000,000			x	ou
2. Order numbers up to 100,000,000,000			x	ou
3. Write whole numbers up to 100,000,000,000 in expanded notation, scientific notation and exponential form		x		ou
4. Write and convert numbers in BASE 5, BASE 2, and BASE 8		x		u
5. Write and convert numbers in BASE 12	x			u
6. Multiply and add in BASE 2	x			u
7. Apply the commutative and associative properties of addition and multiplication			x	ou
8. Apply the distributive law of multiplication over addition or subtraction			x	u
9. Determine if a whole number up to 150 is prime or composite			x	uo
10. Factor a composite number into the product of primes using exponential form			x	uo
11. Use prime factors in finding least common multiple and greatest common factor	x			uo
12. Recognize symbols of operation, comparison, and inclusion			x	uo
13. Recognize and write sets (subsets, equal, infinite and finite)	x		x	uo
14. Recognize symbols for set, subset, intersection, union, and empty	x			uo

SUGGESTED RESOURCES: B 1-14

Wilcox and Yarnelle. Mathematics: A Modern Approach [Duplicating Masters]. Menlo Park, CA: Addison-Wesly Publishing Co., 1969.

GOAL C. KNOW THE TERMS, DEFINITIONS, AND APPLICATIONS OF GEOMETRY.

OBJECTIVES: The student will:

	I	R	M	E
1. Recognize triangles, quadrilaterals (square, rectangle, parallelogram, rhombus), pentagons, hexagons, and octagons		x		u
2. Compute, by formula, the area of triangles, squares, rectangles, circles, trapezoids, and parallelograms			x	u
3. Compute the perimeter of any polygon and the circumference of any circle			x	u

		I	R	M	E
4.	Recognize, name, and label acute, right, and obtuse angles and triangles			x	ou
5.	Use a protractor and compasses			x	u
6.	Construct angle and line segment bisectors			x	u
7.	Construct an angle congruent to a given angle			x	u
8.	Read and use the following symbols: // , <, >, ⊥			x	uo
9.	Describe line, line segment, point and ray	x			
10.	Find intersection of rays, line and line segments, and angles combined	x			uo
11.	Find union of two rays which constitute an angle	x			uo
12.	Define different triangles: right, obtuse, scalene, isosceles, equilateral			x	uo
13.	Determine when two line segments are parallel or perpendicular			x	uo
14.	Compute hypotenuse by using the Pythagorean theorem	x			u

SUGGESTED RESOURCES: C 1-14

Dressler, Isidore, Preliminary Mathematics, [Textbook], New York: Amsco School, 1981. Reinforcement of Basic Geometry.

Wilcox and Yarnelle. Mathematics: A Modern Approach. [Duplicating Masters]. Menlo Park, CA: Addison-Wesly Publishing Co., 1969.

GOAL D. DEMONSTRATE A KNOWLEDGE OF THE INTEGERS.

OBJECTIVES: The student will:

		I	R	M	E
1.	Recognize and graph points on a number line			x	uo
2.	Compare and order two or more integers			x	ou
3.	Use integers to perform the four basic operations		x		uo
4.	Recognize opposites	x			o
5.	Recognize other points on the number line besides integers	x			o
6.	Understand the concept of absolute value	x			ou
7.	Use variable names in place of numbers		x		uo

SUGGESTED RESOURCES: D 1-7

Bolster, Carey and Woodburn, Douglas. Mathematics in Life [Textbook]. Oakland, NJ: Scott Foresman & Co., 1977. Reinforcement of ratio and proportion, percent positive and negative intergers, expressions and negative numbers, expression and equations. (Basic 1, Goals f, e, d)

Keedy, Mervin L. General Mathematics (Textbook]. Reading, MA: Addison-Wesly Co., 1979. Reinforcement of percent, positive and negative integers. (Basic 1, Goals E, D.)

Wilcox and Yarnelle. Mathematics: A Modern Approach. [Duplicating Masters]. Menlo Park, CA: Addison-Wesly Publishing Co., 1969.

GOAL E. UNDERSTAND AND APPLY THE CONCEPTS OF RATIO, PROPORTION, AND PERCENTAGE.

OBJECTIVES: The student will:

	I	R	M	E
1. Express any fraction with a denominator of 100		x		u
2. Express any fraction as a percent			x	u
3. Find percent of a given number			x	u
4. Solve word problems involving finding a percent of a given number, finding the percent one number is of another, and finding a number when a percentage of that number is given	x		x	u
5. Solve word problems involving interest, discount and tax		x		u
6. Solve word problems involving commission		x		u

SUGGESTED RESOURCS: E 1-6

Bolster, Carey and Woodburn, Douglas. Mathematics in Life [Textbook]. Oakland, NJ: Scott Foresman & Co., 1977. Reinforcement of ratio and proportion, percent positive and negative intergers, expressions and negative numbers, expression and equations, (Basic 1, Goals f, e, d)

Wilcox and Yarnelle. Masters include work in binary and other bases: names for a number; sets, lines, rays, angles union; prime number and factors fractions, decimals, percents; number line; equations; ratio and proportion; interest; problem solving; areas; polygons and circles; trigonometry.

GOAL F: UNDERSTAND AND APPLY THE CONCEPTS OF FIRST DEGREE EQUATIONS.

OBJECTIVES: The student will:

	I	R	M	E
1. Understand true, false, and open sentences	x			uo
2. Solve open sentences	x			uo
3. Solve equations with fractional coefficients	x			u
4. Solve equations using the distributive property	x			u
5. Solve equations with like variables	x			u
6. Solve word problems using equations with two or more operations	x			u

SUGGESTED RESOURCES: F 1-6

Bolster, Carey and Woodburn, Douglas. Mathematics in Life [Textbook]. Oakland, NJ: Scott Foresman & Co., 1977. Reinforcement of ratio and proportion, percent positive and negative intergers, expressions and negative numbers, expression and equations, (Basic 1, Goals f, e, d)

Keedy, Mervin L. General Mathematics (Textbook]. Reading, MA: Addison-Wesly Co., 1979. Reinforcement of percent, positive and negative integers. (Basic 1, Goals E, D.)

Wilcox and Yarnelle. Mathematics: A Modern Approach. [Duplicating Masters]. Menlo Park, CA: Addison-Wesly Publishing Co., 1969.

GOAL G: UNDERSTAND AND APPLY THE CONCEPTS OF TRIGONOMETRY.	I	R	M	E
OBJECTIVES: The student will:				
1. Define similar right triangles	x			ou
2. Understand the concept of trigonometric ratios: sine, cosine, tangent	x			u
3. Find measure in degrees of the third angle in a right triangle	x			u
4. Find measure of a side in right triangle using trigonometric ratios	x			u
5. Solve word problems using applications of right triangles	x			uo

SUGGESTED RESOURCES: G 1-5

Wilcox and Yarnelle. Mathematics: A Modern Approach. [Duplicating Masters]. Menlo Park, CA: Addison-Wesly Publishing Co., 1969.

COURSE: Basic Mathematics II

TEXT: Refresher Mathematics

GOAL A: DEMONSTRATE COMPETENCY IN PERFORMING THE FOUR BASIC OPERATIONS ON WHOLE NUMBERS AND DECIMALS.	I	R	M	E
OBJECTIVES: The student will:				
1. Select information needed to solve word problems		x		t
2. Use the appropriate operations(s) to solve word problems		x		tu
3. Round answers to appropriate unit of measure (nearest cent, degree, etc.)		x	x	ot
4. Check for reasonableness of answers by estimating		x	x	ot

SUGGESTED RESOURCES: A 1-4

Harnadek, Anita. Decimals-1 Word Problems [Duplicate Masters]. Pacific Grove California: Midwest Publications, 1980. (Basic II, Goal A).

Bolster, Carney and Douglas Woodburn. Mathematics in Life [Textbook]. Oakland, New Jersey: Scott Foresman and Co., 1977. (Basic II, Goal A, E< F).

GOAL B: DEMONSTRATE A PROFICIENCY IN READING AND WRITING NUMBERS.	I	R	M	E
OBJECTIVES: The student will:				
1. Identify, read and write numbers through 100,000,000,000			x	t
2. Order numbers up to 100,000,000,000			x	t
3. Apply the commutative and associative properties of addition and multiplication			x	t
4. Apply the distributive law of multiplication over addition or subtraction			x	t
5. Determine if a number up to 150 is prime or composite		x	x	t
6. Factor a composite number into the product of primes			x	t
7. Use exponents to represent factors			x	t
8. Find square roots of numbers up to 1,000 using a square root table			x	t
9. Recognize symbols of operation, comparison and inclusion			x	t

COURSE: Basic Math II

GOAL C: KNOW THE TERMS, DEFINITIONS AND APPLICATIONS OF GEOMETRY.

OBJECTIVES: The student will:	I	R	M	E
1. Recognize triangles, quadrilaterals, pentagons, hexagons and octagons	x	x		t
2. Recognize, name and label acute, right and obtuse angles and triangles	x	x		t
3. Use a protractor and compasses	x	x		t
4. Read and use the following symbols: $//$, $\perp$, $<$, $>$, $=$, $\leq$, $\geq$, $\neq$	x	x		t
5. Define different types of trangles: right, obtuse, scalene, isosceles, equilateral	x	x		t

GOAL D: UNDERSTAND AND APPLY THE CONCEPT OF STATISTICS.

OBJECTIVE: The student will:	I	R	M	E
1. Read and interpret data from pictographs, bar graphs, line graphs and circle graphs		x	x	t
2. Organize data to construct bar, line, circle and pictographs		x	x	t

SUGGESTED RESOURCES: D 1,2

Interpreting Graphs [Software]. Iowa City, IA: Conduit, 1982.

GOAL E: DEMONSTRATE A KNOWLEDGE OF THE INTEGERS.

OBJECTIVES: The student will:	I	R	M	E
1. Recognize and graph points on a number line		x	x	t
2. Order two or more integers using the symbols of comparison		x	x	t
3. Use integers to perform the four basic operations		x	x	t
4. Solve equations with integers, coefficients and roots		x	x	t
5. Graph and name coordinate of ordered pairs	x	x		t
6. Graph linear equations using ordered pairs	x	x		t
7. Graph systems of two linear equations whose solution is an ordered pair	x	x		t
8. Solve simultaneous equations algebraically	x	x		t

SUGGESTED RESOURCES: E 1-8

Bolster, Carney and Douglas Woodburn. Mathematics in Life [Textbook]. Oakland, New Jersey: Scott Foresman and Co., 1977. (Basic II, Goals A, E, F).

COURSE: Basic Math II

GOAL F: UNDERSTAND AND APPLY THE CONCEPTS OF RATION PROPORTION AND PERCENTAGE.

OBJECTIVES: The student will:

	I	R	M	E
1. Show the relationship between two numbers as a ratio	x	x	x	t
2. Define proportion, means, and extremes	x	x	x	t
3. Determine a true proportion by showing that the product of the means is equal to the product of the extremes	x	x	x	t
4. Find the missing term of a proportion by setting up and solving an equation	x	x	x	u
5. Use subscripts in solving direct and inverse variation problems	x	x		t
6. Use the one, ten, fifty and one hundred percents to estimate answers	x	x	x	t
7. Write and solve percentage problems (interest, commission, taxes, discount)		x	x	t
8. Use proportion, direct and inverse variation, and percent to solve word problems (interest, commission, taxes and discount		x	x	u

SUGGESTED RESOURCES: F 1-8

Bolster, Carney and Douglas Woodburn. Mathematics in Life [Textbook]. Oakland, New Jersey: Scott Forseman and Co., 1977. Reinforcement of ratio and proportion, percent, positive and negative integers, expressions and negative numbers, expressions and equations. (Basic II, Goals A, E, F).

GOAL G: UNDERSTAND AND APPLY THE CONCEPTS OF TRIGONOMETY OF RIGHT TRIANGLES.

OBJECTIVES: The student will:

	I	R	M	E
1. Define the sine, cosine and tangent as ratio of the sides of a right triangle	x	x		t
2. Set up a proportion to solve for the missing side or angle of a right triangle	x	x		t
3. Apply these concepts to real world situations	x	x		t

CONSUMER MATH

A. Income (Wages)
   1. Read, write, speak and recognize the meaning of the terms related to earning a wage
   2. Compute hourly and overtime rate
   3. Compute hourly rate plus tips
   4. Figure commission and graduated commission
   5. Figure net pay minus exemptions (federal and state income taxes, social security) using tables
   6. Read and interpret classified advertisements
   7. Assume the role of a salesman, bookkeeper, etc.

B. Banking
   1. Open a checking account
   2. Complete a deposit slip
   3. Fill out a check and stub
   4. Keep a cash register
   5. Reconcile a bank statement
   6. Compute simple interest
   7. Compute compound interest by formula using tables

C. Consumer Credit
   1. Read, write, speak and recognize the meaning of terms relating to borrowing money
   2. Understand promissory notes
   3. Use credit cards properly
   4. Figure finance charges using different methods (average daily balance, etc.)
   5. Become familiar with minimum payments on charge accounts
   6. Recognize level payment loans
   7. Understand installment purchases and interest due and maturity on interest bearing notes
   8. Compare merits of various credit plans

D. Transportation
   1. Do preliminary research toward buying a new and used car
   2. Initiate procedures toward financing a car
   3. Compute car fuel consumption
   4. Compute yearly cost of a car including such items as fuel oil, repair, tires, insurance, depreciation
   5. Compare various types of automobile insurance

E. Travel
   1. Compute distance and travel times
   2. Use distance charts and maps
   3. Compute expenses on the road
   4. Understand terminology of air and bus travel

M.2

A. INCOME (WAGES)

	K	1	2	3	4	5	6	7	8	B1	B2	C
1.												X
2.												X
3.												X
4.												X
5.												X
6.												X
7.												X

B. BANKING

1.												X
2.												X
3.												X
4.												X
5.												X
6.												X
7.												X

C. CONSUMER CREDIT

1.												X
2.												X
3.												X
4.												X
5.												X
6.												X
7.												X
8.												X

D. TRANSPORTATION

1.												X
2.												X
3.												X
4.												X
5.												X

E. TRAVEL

1.												X
2.												X
3.												X
4.												X

F. Real Estate
   1. Review finances to determine price range you can afford when buying or renting a home or an apartment
   2. Understand what constitutes a mortgage and the process of applying for a mortgage
   3. Estimate the closing costs (laywer's fees, title search, points, loan cost, recording fee, home owner insurance)
   4. Compute interest on mortgage loans
   5. Understand how property taxes are assessed and what they are used for and compute the tax rate
   6. Figure rental income on real estate property

G. Personal Income Taxes
   1. Explain how taxes are collected and used
   2. Complete various tax returns (1040EZ, 1040A, 1040 short/long forms))
   3. Complete state income tax forms
   4. Compute sales and excise tax

H. Investments
   1. Explain Series E bonds, certificates of deposit, IRA's, Keogh Plan
   2. Explain stock transactions and the process of investing in stocks on the New York Stock Exchange and over-the-counter stocks
   3. Compute stock and bond income on investments
   4. Compute profit or loss on sale of stock

I. Insurance
   1. Shop for various life insurance policies
   2. Use actuary tables to determine premiums on policies
   3. Explain the Social Security system
   4. Compute social security on wages
   5. Compute insurance premium on home mortgage

J. Comestibles
   1. Do comparison grocery shopping
   2. Do comparison meat shopping
   3. Compare costs of various meals
   4. Determine the amounts of calories in food items by reading labels and compute caloric intake

K. Budgeting
   1. Prepare an individual and a family budget
   2. Analyze spending habits
   3. Adjust budgets to take care of variable expenses
   4. Prepare cash record of income and expenses for an individual and a family for one year

	K	1	2	3	4	5	6	7	8	B1	B2	C
F. REAL ESTATE												
1.												X
2.												X
3.												X
4.												X
5.												X
6.												X
G. Personal Income Taxes												
1.												X
2.												X
3.												X
4.												X
H. Investments												
1.												X
2.												X
3.												X
4.												X
5.												X
I. Insurance												
1.												X
2.												X
3.												X
4.												X
5.												X
J. Comestibles												
1.												X
2.												X
3.												X
4.												X
K. Budgeting												
1.												X
2.												X
3.												X
4.												X

L. Buying

1. Read, write, speak and recognize the meaning of a term relating to buying
2. Prepare a sales slip
3. Compute sales tax
4. Compute the unit price of items for comparison

L. Buying

	K	1	2	3	4	5	6	7	8	B1	B2	C
1.												X
2.												X
3.												X
4.												X

COURSE: Consumer Mathematics

TEXT: Consumer and Career Mathematics

GOAL A: UNDERSTAND AND APPLY THE CONCEPT OF INCOME.

OBJECTIVES: The student will:

	I	R	M	E
1. Compute hourly and overtime rate	x			t
2. Compute hourly rate plus tips	x			t
3. Figure commission and graduated commission	x			
4. Figure net pay minus exemptions such as federal and state income taxes, and social security	x			t
5. Read and interpret classified advertisements	x			
6. Assume the role of salesman, bookeeper, etc.	x			tu

GOAL B: UNDERSTAND AND APPLY THE CONCEPTS OF BANKING.

OBJECTIVES: The student will:

	I	R	M	E
1. Open a checking account			x	
2. Complete a deposit slip			x	
3. Properly fill out a check and stub			x	
4. Keep a check register			x	t
5. Reconcile a bank statment			x	t
6. Compute simple interest			x	t
7. Compute compound interest by formula and using tables			x	tu

GOAL C: UNDERSTAND AND APPLY THE CONCEPTS OF CONSUMER CREDIT.

OBJECTIVES: The student will:

	I	R	M	E
1. Read and understand promissory notes			x	
2. Use credit cards properly			x	
3. Figure finance charges on credit using different methods (average daily balance, etc.)	x			t
4. Become familiar with minimum payments on charge accounts			x	
5. Recognize level-payment loans			x	
6. Understand installment purchases			x	
7. Compare merits of various credit plans	x			tu

SUGGESTED RESOURCES: C 1-7

Cass, Angelica, W. [Textbook]. How to be a Wise Consumer. New York: Oxford Book Company, 1967.

COURSE: Consumer Mathematics

GOAL D: UNDERSTAND AND APPLY THE CONCEPTS OF TRANSPORTATION.

OBJECTIVES: The student will:	I	R	M	E
1. Do preliminary research towards buying a new or used car			x	
2. Initiate procedures towards financing a car			x	
3. Compute fuel consumption			x	t
4. Compute yearly cost of a car including such items as fuel, oil, repair, tires, insurance, depreciation			x	t
5. Compare various types of automobile insurance			x	tu

GOAL E: UNDERSTAND THE CONCEPTS OF TRAVEL.

OBJECTIVES: The student will:	I	R	M	E
1. Compute distance and travel times			x	t
2. Use distance charts and maps			x	t
3. Compute expenses on the road			x	t
4. Understand terminology of air and bus travel (arrival and departure times, gates, luggage checking, etc.)			x	tu

GOAL F: UNDERSTAND CERTAIN REAL ESTATE CONCEPTS.

OBJECTIVES: The student will:	I	R	M	E
1. Review finances to determine what price range one can afford when buying or renting a home or renting an apartment			x	
2. Understnd what constitutes a mortgage and the process of applying for a mortgage	x			
3. Estimate closing costs taking into consideration lawyer's fee, title search, points, loan cost, recording fee, homeowner's insurance	x			t
4. Compute interest on mortgage loans			x	t
5. Understand how property taxes are assessed			x	tu

COURSE: Consumer Mathematics

GOAL G: UNDERSTAND AND APPLY THE CONCEPTS OF PERSONAL INCOME TAX.

OBJECTIVES: The student will:	I	R	M	E
1. Explain how taxes are collected and used			x	s
2. Complete various tax returns (1040ez, 1040a, 1040 short and long forms)	x			s
3. Complete state income tax forms	x			tu

SUGGESTED RESOURCES: G 1-3

Money Talks [Motion Picture]. Looks at the role of taxation in American history. Washington, D.C.: Internal Revenue Service, 26 min.

Understanding Taxes 1985, Teacher's Guide. Department of the Treasury. Internal Revenue Service. Publication 19 Rev. 11-84), 71 pages.

Undertanding Taxes 1985, Department of the Treasury. Internal Revenue Service. Publication 21 (Rev. 10-84), 47 pages.

The Subject Was Taxes [Motion Picture]. Portrays the history of taxation from earliest times to the present. Washington D.C.: Internal Revenue Service, 16.5 mins.

What Happened To My Paycheck? [Motion Picture]. Examines the modern payroll deduction sustem and the processing of tax returns. Washington, D.C.: Internal Revenue Service, 16.5 mins.

Your Federal Income Tax, 1984. Department of the Treasury. Internal Revenue Service. Publication 17 (Rev. Nov. 84), 184 pages.

GOAL H: UNDERSTAND THE CONCEPT OF HEALTH, RETIREMENT AND LIFE INSURANCE.

OBJECTIVES: The student will:	I	R	M	E
1. Shop for various life insurance policies	x			
2. Use actuarial tables to determine the premium on policies			x	t
3. Compute social security on wages			x	tu

SUGGESTED RESOURCES: H 1-3

Holran, Thompson [Textbook]. Life Insurance Fact Book. New York: Institute of Life Insurance., 1965.

COURSE: Consumer Mathematics

GOAL I: UNDERSTAND THE CONCEPT OF INVESTMENTS.

OBJECTIVES: The student will:

	I	R	M	E
1. Explain series E bonds, certificates of deposit, IRA's, Keough Plan	x			
2. Explain stock transactions and the process of investing in stock on New York and American Stock Exchanges and over-the-counter stocks	x			t
3. Explain bond transactions and the process of investing in these	x			tu

SUGGESTED RESOURCES: I 1-3

Cass, Angelica W. [Textbook]. How to be a Wise Consumer. New York: Oxford Book Company, 1967.

GOAL J: UNDERSTAND THE CONCEPT OF BUYING EDIBLES.

OBJECTIVES: The student will:

	I	R	M	E
1. Do comparison grocery shopping			x	
2. Compare cost of various meals			x	t
3. Determine the number of calories by reading labels and compute calorie intake			x	tu

GOAL K: UNDERSTAND THE CONCEPT OF BUDGETING.

OBJECTIVES: The student will:

	I	R	M	E
1. Prepare a personal budget			x	
2. Analyze spending habits			x	t
3. Adjust budgets to take care of variable expenses			x	
4. Read and interpret data from bar graphs, line graphs and circle graphs			x	t
5. Organize data to construct bar graphs, line graphs and circle graphs			x	t
6. Compute mean, median, mode and range for a given set of data			x	tu

A. REAL NUMBERS
1. State the additive inverse of any real number
2. State the multiplicative inverse of any real number except zero
3. Use the distributive law
4. State and apply the axioms of closure
5. State and apply the identity axioms of addition and multiplication

B. POLYNOMIALS
1. Write algebraic expressions
2. Evaluate expressions involving powers and other operations
3. Apply the correct order of operations to simplify an expression
4. Express polynomials in simple form
5. State the degree of a given polynomial
6. Add, subtract, multiply and divide polynomials
7. Factor polynomials by removing a common monomial factor
8. Factor the difference of two squares
9. Factor a perfect square trinomial
10. Factor general trinomials
11. Factor polynomials by grouping
12. Factor the sum and difference of two cubes
13. Divide polynomials synthetically
14. Factor polynomials and determine the value of a polynomial at a particular point

C. EQUATIONS
1. Solve linear equations of one unknown
2. Set up and solve problems involving linear equations
3. Solve quadratic equations by factoring
4. Solve polynomial equations by factoring
5. Set up and solve problems using factorable expressions
6. Solve systems of linear equations in two unknowns by substitution in linear combination methods
7. Solve systems with three linear equations in three unknowns
8. Set up and solve problems involving systems of linear equations
9. Solve quadratic equations by completing the square
10. State and derive the quadratic formula and use it to solve equations
11. Solve quadratic systems of equations algebraically

College Preparatory Mathematics Matrix

	ALG 1	ALG 2	GEOM	PRE CALC	PRE COLL	CALC
A. REAL NUMBERS						
1.	X	X	X	X	X	X
2.	X	X	X	X	X	X
3.	X	X	X	X	X	X
4.		X	X	X	X	X
5.		X	X	X	X	X
B. POLYNOMIALS						
1.	X	X	X	X	X	X
2.	X	X	X	X	X	X
3.	X	X	X	X	X	X
4.	X	X	X	X	X	X
5.	X	X	X	X	X	X
6.	X	X	X	X	X	X
7.	X	X	X	X	X	X
8.	X	X	X	X	X	X
9.	X	X	X	X	X	X
10.	X	X	X	X	X	X
11.	X	X	X	X	X	X
12.		X	X	X	X	X
13.					X	X
14.					X	X
C. EQUATIONS						
1.	X	X	X	X	X	X
2.	X	X	X	X	X	X
3.	X	X	X	X	X	X
4.	X	X	X	X	X	X
5.	X	X	X	X	X	X
6.	X	X	X	X	X	X
7.		X	X	X	X	X
8.		X	X	X	X	X
9.		X	X	X	X	X
10.		X	X	X	X	X
11.		X	X	X	X	X

D. GRAPHING

1. Add and subtract any two real numbers using the number line
2. Graph ordered pairs of numbers on a Cartesian coordinate plane
3. Graph a linear equation in two unknowns
4. Solve systems of linear equations of two unknowns by graphing
5. Graph quadratic functions
6. State the axis of symmetry and vertex of a quadratic function
7. Solve quadratic systems of equations by graphing
8. Graph polynomial functions
9. Graph logarithmic functions
10. Graph exponential functions
11. Determine the natural domain of a function
12. Determine whether a function is discontinuous at a point or points to locate asymptote(s).
13. Use first derivative of a function to locate absolute and relative extrems
14. Use second derivative of a function to determine concavity and points of inflection

E. RATIONAL EXPRESSIONS

1. Reduce fractions to lowest terms
2. Exclude values of the variable for which a fraction is undefined
3. Solve problems involving ratios, mixture, percent, uniform motion, work and investment
4. Add, subtract, multiply and divide fractions
5. Convert mixed numbers into improper fractions
6. State and apply the laws of negative integral exponents
7. Convert numbers from standard notation to scientific notation
8. Convert numbers from scientific notation to standard notation
9. Reduce rational algebraic expressions to simplest form
10. Simplify complex fractions
11. Solve equations involving rational expressions

F. INEQUALITIES

1. Solve linear inequalities
2. Set up and solve problems involving linear inequalities
3. Solve systems of linear inequalities by graphing
4. Solve composite quadratic inequalities
5. Rewrite inequalities involving absolute value as linear inequalities

	ALG 1	ALG 2	GEOM	PRE CALC	PRE COLL	CALC
D. GRAPHING						
1.	X	X	X	X	X	X
2.	X	X	X	X	X	X
3.	X	X	X	X	X	X
4.	X	X	X	X	X	X
5.		X	X	X	X	X
6.		X	X	X	X	X
7.		X	X	X	X	X
8.					X	X
9.					X	X
10.					X	X
11.					X	X
12.					X	X
13.						X
14.						X
E. RATIONAL EXPRESSIONS						
1.	X	X	X	X	X	X
2.	X	X	X	X	X	X
3.	X	X	X	X	X	X
4.	X	X	X	X	X	X
5.	X	X	X	X	X	X
6.		X	X	X	X	X
7.		X	X	X	X	X
8.		X	X	X	X	
9.		X	X	X	X	X
10.		X	X	X	X	X
11.		X	X	X	X	X
F.INEQUALITIES						
1.	X	X	X	X	X	X
2.	X	X	X	X	X	X
3.		X	X	X	X	X
4.		X	X	X	X	X
5.		X	X	X	X	X

G. THE LINE
1. Determine the slope of a line if given two points
2. Determine the slope of a line if given the graph of the line
3. Determine the slope of a line if given the equation of the line
4. Determine the equation of a line if given its slope and its y intercept
5. Determine the equation of a line if given its slope and a point
6. Determine the equation of a line if given two points
7. Transform any equation of a line into standard form

H. IRRATIONAL NUMBERS
1. Extend the laws of rational exponents to all real numbers
2. Write irrational numbers in simplest form

I. COMPLEX NUMBERS
1. State the nature of the roots of any quadratic equation
2. State the additive, inverse, multiplicative inverse and conjugate of any complex number
3. Add, subtract, multiply and divide complex numbers

J. GEOMETRICAL TERMS
1. Define: segment, midpoint, segment bisector and ray
2. Define acute, right, obtuse angles, angle bisector, complementary, supplementry and vertical angles
3. Distinguish between axioms or postulates and theorems

	ALG 1	ALG 2	GEOM	PRE CALC	PRE COLL	CALC
G.THE LINE						
1.	X	X	X	X	X	X
2.	X	X	X	X	X	X
3.	X	X	X	X	X	X
4.	X	X	X	X	X	X
5.	X	X	X	X	X	X
6.	X	X	X	X	X	X
7.		X	X	X	X	X
H. IRRATIONAL NUMBERS						
1.		X	X	X	X	X
2.		X	X	X	X	X
I. COMPLEX NUMBERS						
1.			X	X	X	X
2.			X	X	X	X
3.			X	X	X	X
J. GEOMETRICAL TERMS						
1.			X	X	X	X
2.			X	X	X	X
3.			X	X	X	X

K. CONGRUENCE
1. State the definition of congruent triangles
2. Categorize triangles with regard to their sides and angles
3. Apply the various methods of proving triangles congruent
4. Identify and name the parts of a right triangle
5. Apply the various methods of proving right triangles congruent
6. Use congruent triangles to prove corresponding parts congruent
7. Prove and apply the theorems relating to isosceles and equilateral triangles

L. PERPENDICULAR LINES
1. State the defintion of perpendicular lines
2. State, prove and apply the equidistance theorems

M. PARALLEL LINES
1. State the definition of parallel lines
2. State Euclid's Parallel Postulate
3. State, prove and apply the various properties of parallel lines

N. POLYGONS
1. Prove and use the particular properties of squares, parallellograms, rhombi and trapezoids
2. Name and label the other common polygons
3. Prove and apply the theorem on the sum of the angles of a triangle
4. Prove and apply the theorem on the sum of the angles of any polygon
5. Prove and apply the other common formulas relating to polygons

	ALG 1	ALG 2	GEOM	PRE COLL	PRE CALC	CALC
K. CONGRUENCE						
1.			X	X	X	X
2.			X	X	X	X
3.			X	X	X	X
4.			X	X	X	X
5.			X	X	X	X
6.			X	X	X	X
7.			X	X	X	X
L. PERPENDICULAR LINES						
1.			X	X	X	X
2.			X	X	X	X
M. PARALLEL LINES						
1.			X	X	X	X
2.			X	X	X	X
3.			X	X	X	X
N. POLYGONS						
1.			X	X	X	X
2.			X	X	X	X
3.			X	X	X	X
4.			X	X	X	X
5.			X	X	X	X

O. SIMILAR TRIANGLES
   1. Define the similarity of triangles
   2. Prove and apply the various methods of proving triangles similar
   3. Prove segments proportional by means of proving triangles similar
   4. Prove and apply the Pythagorean Theorem

P. CIRCLES
   1. Define chord, secant, tangent, central angle and inscribed angle, minor and major arcs
   2. Prove and apply various properties of chords, tangents, secants
   3. Measure the angles formed by chords, tangents, secants by means of their intercepted arcs
   4. Compute the circumference of any circle and the length of a given arc

Q. AREA AND VOLUME
   1. Compute the area of a triangle, parallelogram, trapezoid and any regular polygon
   2. Compute the surface area and volume of a prism, cone, sphere, pyramid and cylinder
   3. Compute the area of a circle, circular segment and circular sector

R. FUNCTIONS
   1. State the definition of a function
   2. Use functional notation
   3. Compare functions by addition, subtraction, division, multiplication and composition
   4. Find the inverse of a function
   5. Determine any points of discontinuity
   6. Determine the range and domain of a function
   7. State the Fundamental Theorem of Alegbra
   8. Define logarithmic and exponential functions
   9. Apply logarithmic and exponential functions
   10. Graph logarithmic functions
   11. Determine common logarithms and calculate using commom logarithms
   12. Solve exponential and logarithmic equations
   13. Determine whether a function is odd or even or neither
   14. Decompose functions by adding, subtracting, multiplying and dividing
   15. Rewrite radical and absolute value functions as linear functions

	ALG 1	ALG 2	GEOM	PRE COLL	PRE CALC	CALC
O. SIMILAR TRIANGLES						
1.			X	X	X	X
2.			X	X	X	X
3.			X	X	X	X
4.			X	X	X	X
P. CIRCLES						
1.			X	X	X	X
2.			X	X	X	X
3.			X	X	X	X
4.			X	X	X	X
Q. AREA AND VOLUME						
1.			X	X	X	X
2.			X	X	X	X
3.			X	X	X	X
R. FUNCTIONS						
1.					X	X
2.					X	X
3.					X	X
4.					X	X
5.					X	X
6.					X	X
7.					X	X
8.				X	X	
9.				X	X	
10.				X	X	
11.				X	X	
12.				X	X	
13.						X
14.						X
15.						X

	ALG 1	ALG 2	GEOM	PRE COLL	PRE CALC	CALC
S. TRIGONOMETRY OF THE RIGHT ANGLE						
1.				X	X	X
2.				X	X	X
3.				X	X	X
4.				X	X	X
5.				X	X	X
6.				X	X	X
7.				X	X	X
8.				X	X	X
9.			X	X	X	X
10.				X	X	X
T. OBLIQUE TRIANGLES						
1.					X	X
2.					X	X
3.					X	X
4.					X	X
5.					X	X
6.					X	X

	ALG 1	ALG 2	GEOM	PRE COLL	PRE CALC	CALC
V.FUNCTIONS AND DERIVATIVES						
1.						X
2.						X
3.						X
4.						X
5.						X
6.						X
7.						X
8.						X
9.						X
10.						X
W. APPLICATIONS OF THE DERIVATIVE						
1.						X
2.						X
3.						X
4.						X
5.						X

S. TRIGONOMETRY OF THE RIGHT ANGLE

1. Define the six trigonometric functions as ratios of the sides of a right triangle
2. Use a table to determine trigonometric values when the acute angle is known
3. Use a table to determine an acute angle when the trigonometric value is known
4. Interpolate to find values for angles given in degrees and minutes or to find an angle in degrees and minutes when the value is known
5. Find the sides of a right triangle under stated conditions
6. Find the acute angles of a right triangle under the stated conditions
7. Use the angles of elevation and depression to find the sides of a right triangle and vice-versa
8. Solve word problems using the trigonometric ratios
9. Use the Pythagorean Theorem to establish the 30, 60, 90 degree and 45, 45, 90 degree relationships
10. Find the trigonometric values for the 30, 60, 90 degree and 45, 45, 90 degree angles

T. OBLIQUE TRIANGLES

1. State and prove the Law of Sines
2. Find the unknown parts of a triangle using the Law of Sines given one side and two angles
3. Find the unknown parts of a triangle using the Law of Sines given two sides and the angle opposite one of them
4. State and prove the Law of Cosines
5. Find the unknown parts of a triangle using the Law of Cosines given two sides and their included angle
6. Find the unknown parts of a triangle using the Law of Cosines given three sides

	ALG 1	ALG 2	GEOM	PRE COLL	PRE CALC	CALC
X. INTEGRATION						
1.						X
2.						X
3.						X
4.						X
5.						X
Y. APPLICATIONS OF INTEGRATION						
1.						X
2.						X
3.						X
4.						X
5.						X
6.						X
7.						X
8.						X
9.						X
10.						X

U. TRIGONOMETRY OF THE GENERAL ANGLE

1. Define the general angle in standard position
2. Find the trigonometric values of angles in each quadrant and of angles greater than 360 degrees and of negative angles
3. Use the unit circle to find trigonometric values of the quadrantal angles (0,90,180,270,360 degrees)
4. Measure angles in degrees and/or radians
5. Convert degrees to radians and radians to degrees
6. Find the length of an arc
7. Define the reciprocal quotient and Pythagorean identities
8. Verify trigonometric identities using the basic identities
9. Express each function in terms of the other five
10. Express the functions of any angle in terms of the functions of a positive angle less than 90 degrees
11. Express the functions of any angle in terms of the functions of an angle less than 45 degrees
12. Solve conditional trigonometric equations
13. Define domain, range, period, amplitude, frequency and asymptote in relation to the trigonometric functions
14. State the domain, range, period, amplitute, frequency, and asymptote where applicable
15. Graph any trigonometric function of the type y=f(ax), y=bf(x), y=bf(ax)
16. Graph any trigonometric function
17. Solve systems of two trigonometric functions or of a trigonometric function and a linear function
18. Apply knowledge of trigonometry to other subjects such as physics biology asnd electronics
19. Graph the sine, cosine, and tangent functions and their inverses
20. Graph each trigonometric function and its inverse
21. Define the principal value of each inverse trigonometric function
22. Solve inverse trigonometric equations
23. Apply the formula for the sum (and the difference) of two angles
24. Derive and apply the formula for the sum (and the difference) of two angles
25. Derive and apply the double angle formulas
26. Apply the half angle formulas
27. Derive and apply the half angle formulas
28. Prove identities using the sum and difference, double angle, and half angle formulas

U. TRIGONOMETRY OF THE GENERAL ANGLE

	ALG 1	ALG 2	GEOM	PRE COLL	PRE CALC	CALC
1.				X	X	X
2.				X	X	X
3.				X	X	X
4.				X	X	X
5.				X	X	X
6.				X	X	X
7.				X	X	X
8.				X	X	X
9.					X	X
10.					X	X
11.				X	X	X
12.				X	X	X
13.				X	X	X
14.					X	
15.				X	X	X
16.				X	X	X
17.				X	X	X
18.					X	X
19.				X	X	X
20.				X	X	X
21.				X	X	X
22.					X	X
23.				X	X	X
24.					X	X
25.				X	X	X
26.				X	X	X
27.					X	X
28.				X	X	X

V. FUNCTIONS AND DERIVATIVES

1. Find the derivative of a function using the definition of a slope
2. Find the derivative of a function using the rule for polynomials
3. Find the derivatives of functions using the sum, product, and quotient rules where indicated
4. Find the derivative of a composite function using the chain rule
5. Find the derivative of a function using implicit differentiation
6. Find the derivative of trigonometric, inverse trigonometric, logarithm and exponential functions
7. Find higher order derivatives using all of the derivative techniques
8. State the Mean Value Theorem (without proof), graphically illustrate the theorem, and apply its statement
9. State Rolle's Mean Value Theorem (without proof), and apply it
10. Define differentiability and continuity

W. APPLICATIONS OF THE DERIVATIVE

1. Determine the slope of a curve and the equations of the tangent and normal to a curve at a given point
2. Set up and solve extreme value (maximum-minimum) problems especially relating to the fields of science, economics and business
3. Find the velocity and acceleration of a particle moving along a path
4. Find the average and instantaneous rates of change
5. Set up and solve problems using related rates

X. INTEGRATION
   1. Apply basic integration formulas for polynomial and other functions
   2. Integrate by using identities for the trigonometric functions
   3. Integrate by using substitution for renaming functions in exponential and inverse trigonometric functions
   4. Integrate by partial fractions
   5. Integrate by parts or repeatedly by parts

Y. APPLICATIONS OF INTEGRATION
   1. Find distance and velocity given initial conditions
   2. Use inscribed and circumscribed rectangles to approximate area under a curve
   3. Use the trapezoidal rule to approximate area under a curve
   4. Define the definite integral as the limit of a sum
   5. Write out the proof of summation formulas using mathematical induction
   6. Apply the Fundamental Theorem of integral calculus
   7. Find the area under a curve or between two curves
   8. Find the volume of a solid generated by rotating a given area about an axis using the " x" or " y" slice or disc method, using the " x" or " y" washer method, using the cylindrical shell method
   9. Find the length of a plane curve
   10. Find the area of a surface of revolution

COURSE: Algebra I

TEXT: Algebra, Structure and Method, Book 1

GOAL A: APPLY THE ESTABLISHED RULES FOR EVALUATING AND FORMULATING ALGEBRAIC EXPRESSIONS.

OBJECTIVES: The student will:	I	R	M	E
1. Simplify numerical expressions		x	x	t
2. Evaluate variable expressions		x	x	to
3. Write algebraic expressions	x	x	x	t
4. Evaluate expressions involving powers and other operations	x	x	x	to
5. Evaluate formulas	x	x	x	to
6. Convert words into symbols		x	x	to
7. Apply the correct order of operations to simplify an expression		x	x	to

SUGGESTED RESOURCES: A 1-7

Escape From Algebra [Software]. St. Louis, MO: Milliken, 1982.

Swanson, Richard A., Practice Masters Algebra Structure and Method Book I. [Duplicating Masters]. Boston: Houghton Mifflin, 1981.

GOAL B: APPLY THE LAWS OF ARITHEMETIC TO THE REAL NUMBER SYSTEM.

OBJECTIVES: The student will:	I	R	M	E
1. State the additive inverse of any real number		x	x	o
2. Add and subtract any two real numbers using the number line		x	x	o
3. Add and subtract any two real numbers		x	x	o
4. State the multiplicative inverse of any real number except zero		x	x	o
5. Mulitply and divide real numbers		x	x	o
6. Use the distributive law	x	x	x	t

SUGGESTED RESOURCES: B 1-6

Algebra 500, A Correlated Curriculum Slide System [Slides]. The Set of Real Numbers Solving Equations. Pleasantville, N.Y.: Harcourt Brace Jovanovich, Inc., 1970.

COURSE: Algebra I

GOAL C: SOLVE LINEAR EQUATIONS OF ONE UNKNOWN.	I	R	M	E
OBJECTIVES: The student will:				
1. Solve equations using subtraction		x	x	t
2. Solve equations using addition		x	x	t
3. Solve equations using division		x	x	t
4. Solve equations using mulitplication		x	x	t
5. Solve equations using all four operations	x	x	x	t
6. Solve equations involving combinations of like terms		x	x	t
7. Set up and solve problems involving linear equations	x	x	x	tu

SUGGESTED RESOURCES: C 1-7

Algebra 500, A Correlated Curriculum Slide System [Slides]. Trigonometry, Relations and Functions, Pleasantville, N.Y.: Harcourt Brace Jovanovich, Inc., 1970.

GOAL D: MANIPULATE AND APPLY THE LAWS OF ALGEBRA TO POLYNOMIALS.	I	R	M	E
OBJECTIVES: The student will:				
1. Express polynomials in simple form	x	x	x	t
2. State the degree of a given polynomial	x	x	x	o
3. Add, subtract, multiply and divide polynomials	x	x	x	t
4. Factor polynomials				
a. the removal of common factors				
b. the difference of two squares				
c. trinomial squares				
d. general trinomials				
e. polynomials (by grouping)	x	x	x	t
5. Solve quadratic equations by factoring	x	x	x	t
6. Set up and solve problems involving quadratics by factoring	x	x	x	t
7. Solve polynomial equations by factoring	x	x		t
8. Set up and solve problems involving polynomial equations	x	x		tu

SUGGESTED RESOURCES: D 1-8

Algebra 500, A Correlated Curriculum Slide System [Slides]. Trigonometry, Relations and Functions, Pleasantville N.Y.: Harcourt Brace Jovanovich, Inc., 1970.

COURSE: Algebra I

GOAL E: MANIPULATE FRACTIONS CONTAINING VARIABLE TERMS.	I	R	M	E
OBJECTIVES: The student will:				
1. Reduce fractions	x	x	x	t
2. Calculate the LCD of a number of fractions	x	x	x	to
3. Exclude values of the variable for which a fraction is undefined	x	x	x	to
4. Solve problems involving ratios, including mixture, percent, uniform motion, work and investment problems	x	x	x	t
5. Multiply and divide fractions	x	x	x	t
6. Add and subtract fractions	x	x	x	t
7. Convert mixed numbers to improper fractions	x	x	x	tu

GOAL F: SET UP AND SOLVE LINEAR INEQUALITIES IN ONE UNKNOWN.	I	R	M	E
OBJECTIVES: The student will:				
1. Transform inequalities and find their solution sets	x	x	x	to
2. State the law of trichotomy	x	x	x	o
3. State and apply the transistive property of order	x	x	x	o
4. State and apply the multiplicative property of order	x	x	x	o
5. Solve linear inequalities	x	x		t
6. Set up and solve problems involving linear inequalities	x	x		tu

SUGGESTED RESOURCES: F 1-6

Algebra 500, A Correlated Curriclum Slide System [Slides]. Trigonometry, Relations and Functions, Pleasantville, N.Y.: Harcourt Brace Jovanovich, Inc. 1970.

COURSE: Algebra I

GOAL G: GRAPH PARTICULAR FUNCTIONS AND RELATIONS.	I	R	M	E
OBJECTIVES: The student will:				
1. State a definition of relation, function, range, and domain	x	x	x	to
2. Graph ordered pairs of numbers on a Cartesian coordinate plane	x	x	x	t
3. Solve systems of linear equations in two unknowns by addition and subtraction	x	x	x	t
4. Graph a linear equation in two unknowns	x	x	x	t
5. Solve systems of linear equations in two unknowns by graphing	x	x	x	t
6. Determine the slope of a line if given two points	x	x		t
7. Detemine the slope of a line if given the graph of the line	x	x		t
8. Determine the slope of a line give the equation of the line	x	x		tu
9. Determine the equation of a line given its slope and its y intercept	x	x		t
10. Determine the equation of a line given the slope and a point on the line, not its y intercept	x	x		t
11. Determine the equation of a line given two points of the line	x	x		t
12. Solve systems of linear equations by graphing	x	x		tu

SUGGESTED RESOURCES: G 1-12

Algebra 500, A Correlated Curriculum Slide System [Slides]. Trigonometry, Relations and Functions, Pleasantville, N.Y.: Harcourt Brace Jovanovich, Inc., 1970.

COURSE: Geometry

TEXT: Geometry for Enjoyment and Challenge

GOAL A: DEMONSTRATE AN ABILITY TO USE THE FOLLOWING BASIC TERMS.

OBJECTIVES: The student will:	I	R	M	E
1. List the properties of a definition	x	x	x	t
2. Define words using the properties of a definition	x	x		to
3. Distinguish between defined and undefined terms	x	x	x	to
4. Define, name, measure, and label acute, right, obtuse angles, rays and segments		x	x	to
5. Distinguish between axioms (postulates) and theorems	x	x	x	o
6. Demonstrate that congruency between segments and angles is an equivalence relationship	x	x	x	o
7. Apply the concepts of bisector and trisectors to segments and angles		x	x	t
8. Apply the operational postulates to line segments and angles	x	x	x	t
9. Compute the supplement and complement of a given angle	x	x	x	t
10. Prove and apply the supplementary and complementary theorems	x	x	x	t
11. Prove and apply the theorem on vertical angles	x	x	x	tu

SUGGESTED RESOURCES: A 1-11

Geometry 500, A Correlated Curriculum Slide System [Slides]. Introduction to Geometry, Pleasantville, N.Y.: Harcourt Brace Jovanovich, Inc., 1970.

COURSE: Geometry

GOAL B: PROVE TRIANGLES CONGRUENT FROM PARTICULAR GIVEN CONDITIONS.

OBJECTIVES: The student will:

	I	R	M	E
1. Label and name triangles		x	x	o
2. State the definition of congruent triangles	x	x	x	o
3. Demonstrate that congruence of triangles is an equivalence relation	x	x	x	o
4. Categorize triangles with regard to their sides	x	x	x	to
5. Categorize triangles with regard to their angles	x	x	x	to
6. Apply the SAS, ASA, and SSS methods of proving triangles congruent	x	x	x	tu
7. Identify and name the parts of a right triangle	x	x	x	t
8. Apply the H.A. and H.L. methods for proving right triangles congruent	x	x	x	tu
9. Use congruent triangles to prove corresponding parts of congruent triangles congruent	x	x	x	tu
10. Prove and apply the theorems relating to isosceles and equilateral triangles	x	x	x	t

SUGGESTED RESOURCES: B 1-10

Geometric Supposer: Triangles [Software]. Pleasantville, N.Y.: Sunburst, 1985.

Geometry 500, A Correlated Curriculum Slide System [Slides]. Congruent Triangles, Pleasantvulle, N.Y.: Harcourt Brace Jovanovich, Inc., 1970.

GOAL C: DEMONSTRATE AN ABILITY TO WORK WITH PERPENDICULAR LINES.

OBJECTIVES: The student will:

	I	R	M	E
1. State the definition of perpendicular lines	x	x	x	o
2. State, prove and apply the equidistance theorems	x	x	x	tu
3. Apply the basic theorem concerning perpendicularity between a line and a plane	x	x		t

COURSE: Geometry

GOAL D: DEMONSTRATE AN ABILITY TO WORK WITH PARALLEL LINES.

OBJECTIVES: The student will:	I	R	M	E
1. State the definition of parallel lines	x	x	x	o
2. State Euclid's Parallel Postulate	x	x	x	o
3. Use an indirect proof to show that if parallel lines are cut by a transversal the alternate interior angles formed are congruent	x	x		t
4. Demonstrate directly the various other properties of parallels	x	x	x	tu
5. Use the various properties of parallel lines in formal proofs	x	x	x	tu
6. Use an indirect proof to show that if two line are cut by a transversal and the alternate interior angles formed are congruent, the lines are parallel	x	x		t
7. Demonstrate directly the other methods of proving lines parallel	x	x	x	t
8. Use the various methods to prove lines are parallel	x	x	x	u

SUGGESTED RESOURCES: D 1-8

Geometry 500, A Correlated Curriculum Slide System [Slides]. Parallels and Coordinates, Pleasantville, N.Y.: Harcourt Brace Jovanovich, Inc., 1969.

GOAL E: KNOW THE BASIC CONCEPTS CONCERNING POLYGONS.

OBJECTIVES: The student will:	I	R	M	E
1. Prove and use the particular properties of the following quadrilaterals: a. Parallelograms b. squares c. rhombi d. trapezoids	x	x	x	t
2. Prove and apply the various theorems to prove that a particular quadrilateral is a parallelogram, square, rhombus or trapezoid	x	x	x	t
3. Name and label the other common polygons	x	x	x	o
4. Prove and apply the theorem that the sum of the degrees of the angles of a triangle is 180°	x	x		t
5. Prove and apply the theorem on the sum of the degrees in the angles of any polygon	x	x		tu
6. Prove and apply the other common formulas relating to polygons	x	x	x	tu

SUGGESTED RESOURCES: E 1-6

Geometric Supposer: Quadrilaterals [Software]. Pleasantville, N.Y.: Sunburst, 1985.

COURSE: Geometry

GOAL F: PROVE TRIANGLES ARE SIMILAR FROM PARTICULAR GIVEN CONDITIONS.

OBJECTIVES: The student will:

	I	R	M	E
1. Prove triangles are similar by the AA, SAS, and SSS methods	x	x	x	tu
2. Prove segments proportional by means of similar triangles	x	x	x	tu
3. Prove the products of segments equal from proportional segments	x	x	x	t
4. Prove and apply the Pythagorean Theorem	x	x		u
5. Apply the Pythagorean Theorem particularly to the 30-60-90 and 45-45-90 right triangles	x	x		t

SUGGESTED RESOURCES: F 1-5

Geometry 500, A Correlated Curriculum Slide System [Slides]. Similar Polygons, Pleasantville, N.Y.: Harcourt Brace Jovanovich, Inc., 1969.

GOAL G: DEMONSTRATE AN ABILITY TO WORK WITH THE BASIC CONCEPTS OF CIRCLES.

OBJECTIVES: The student will:

	I	R	M	E
1. Define chord, secant, tangent, central angle and inscribed angle	x	x	x	o
2. Prove the various properties of chords, tangents and secants	x	x		t
3. Apply the properties of chords, tangents, and secants to formal proofs	x	x	x	t
4. Measure the various angles formed by chords, tangent and secants by means of their intercepted arcs	x	x	x	t
5. Compute the circumference of any circle and the length of any given arc	x	x	x	t

SUGGESTED RESOURCES: G 1-5

Geometry 500, A Correlated Curriclum Slide System [Slides]. Circles and Spheres, Pleasantville, N.Y.: Harcourt Brace Jovanovich, Inc. 1969.

GOAL H: APPLY THE BASIC CONCEPTS OF AREA AND VOLUME.

OBJECTIVES: The student will:

	I	R	M	E
1. Compute the area of a triangle, parallelogram, trapezoid and any regular polygons	x	x	x	t
2. Compute the surface area and volume of a prism, cone, sphere, and pyramid	x	x		t
3. Compute the area of a circle circular segment and a circular sector	x	x	x	t

COURSE: Algebra II

TEXT: Algebra and Trigonometry Structure and Method Book II

GOAL A: KNOW THE AXIOMS OF THE REAL NUMBER SYSTEM.

OBJECTIVES: The student will:

	I	R	M	E
1. State the:				
a. axioms of equality		x		ot
b. axioms of closure		x		
c. associative axioms		x		
d. commutative axioms		x		
e. identity axioms		x		
f. inverse axioms		x		
g. distributive law		x	x	
2. Justify steps in an algebraic proof	x	x		ot
3. State the addition and multiplication properties of equality		x		ot

SUGGESTED RESOURCES: A 1-3

Algebra 500, A Correlated Curriculum Slide System [Slides]. Trigonometry, Relations and Functions. Pleasantville, N.Y.: Harcourt Brace Jovanovich, Inc. 1970.

GOAL B: BECOME FAMILIAR WITH THE CARTESIAN COORDINATE SYSTEM AND THE NUMBER LINE.

OBJECTIVES: The student will:

	I	R	M	E
1. Graph points on the Cartesian plane given the coordinates of the points		x	x	t
2. Read the coordinates of points given their graphs		x	x	to
3. State the characteristics of the coordinated of points in each quadrant	x	x	x	to
4. Determine the slope of a line given two points of the line, or an equation of the line		x	x	t
5. Determine the equation of a line given the slope and y intercept, slope and a point or two points		x	x	t
6. Transform any equation of a line into standard form	x	x	x	t
7. Examine any system of linear equations in two unknowns to determine if the equations are consistent and independent, inconsistent and independent, or consistent and dependent	x	x	x	to
8. Solve systems by substitution, linear - combination and graphing methods	x	x	x	t
9. Solve systems of linear inequalities by graphing		x	x	t
10. Solve systems of three linear equations in three unknowns	x	x		
11. Set up and solve problems involving linear equations, including direct variation problems	x	x	x	t

COURSE: Algebra II

SUGGESTED RESOURCES: B 1-11

Algebra 500, A Correlated Curriculum Slide System [Slides]. Trigonometry, Relations and Functions, Pleasantville N.Y.: Harcourt Brace Jovanovich, Inc. 1970.

Graphing Equations [Software]. Iowa City, IA: Conduit, 1983.

Guess My Rule [Software]. Pleasantville, NY: HRM, Inc., 1985.

GOAL C: APPLY THE FOUR OPERATIONS TO POLYNOMIALS.

OBJECTIVES: The student will:

	I	R	M	E
1. State the laws for integral exponents		x	x	to
2. Multiply polynomials		x	x	t
3. Divide polynomials		x	x	t
4. Factor composite polynomials, including the sum or difference of two cubes		x	x	to
5. Use factoring to solve polynomial equations		x		t
6. Use division to evaluate polynomials for a particular value of x	x	x		t
7. Use polynomial equations to solve problems	x	x		tu
8. Solve composite quadratic inequalities	x	x		t

SUGGESTED RESOURCES: C 1-8

Algebra 500, A Correlated Curriculum Slide System [Slides]. Trigonometry, Relations and Functions, Pleasantville, NY: Harcourt Brace Jovanovich, Inc., 1970.

GOAL D: APPLY THE FOUR OPERATIONS TO RATIONAL EXPRESSIONS.

OBJECTIVES: The student will:

	I	R	M	E
1. State the laws for negative integral exponents	x	x		to
2. Simplify expressions containing negative integral exponents	x	x		t
3. Translate numbers from standard notation to scientific notation		x	x	to
4. Translate numbers from scientific notation to standard notations		x	x	to
5. Reduce rational algebraic expressions to simplest form	x	x		t
6. Multiply and divide rational expressions		x	x	t
7. Find the GCF and LCM for rational expressions	x	x	x	to
8. Add and subtract rational expressions		x	x	t
9. Simplify complex fractions		x	x	t
10. Solve equations involving rational expressions		x	x	t
11. Express any terminating or repeating decimal in rational form		x	x	t

SUGGESTED RESOURCES: D 1-11

Algebra 500, A Correlated Curriculum Slide System [Slides]. Trigonometry, Relations and Functions, Pleasantville, NY: Harcourt Brace Jovanovich, Inc. 1970.

COURSE: Algebra II

GOAL E: APPLY THE OPERATIONS TO IRRATIONAL EXPRESSIONS.

OBJECTIVES: The student will:

OBJECTIVES	I	R	M	E
1. Extend the laws of rational exponents to all real numbers	x	x		to
2. Write irrational numbers in simplest form	x	x		t

SUGGESTED RESOURCES: E 1,2

Algebra 500, A Correlated Curriculum Slide System [Slides]. Trigonometry, Relations and Functions, Pleasantville, NY: Harcourt Brace Jovanovich, Inc. 1970.

GOAL F: SOLVE QUADRATIC EQUATIONS AND WORK WITH COMPLEX NUMBERS.

OBJECTIVES: The student will:

OBJECTIVES	I	R	M	E
1. Solve quadratic equations by factoring		x	x	to
2. Solve quadratic equations by completing the square	x	x	x	t
3. State and derive the Quadratic Formula	x	x	x	to
4. Solve quadratic equations by using the Quadratic Formula	x	x	x	t
5. State the nature of the roots of a quadratic equation by examining its coefficients	x	x	x	to
6. State the additive inverse, multiplicative inverse and the conjugate of any complex number	x	x		to
7. Add, subtract, multiply and divide complex numbers	x	x		t
8. Graph quadratic functions	x	x		t
9. State the axis of symmetry and vertex of a quadratic function	x	x		t
10. Solve quadratic systems of equations algebraically	x	x		t
11. Solve quadratic systems of equations graphically	x	x		tu

SUGGESTED RESOURCES: F 1-11

Algebra 500, A Correlated Curriclum Slide System [Slides]. Trigonometry, Relations and Functions, Pleasantville, NY: Harcourt Brace Jovanovich, Inc. 1970.

COURSE: Pre-Calculus

TEXT: Foundation of Advanced Mathematics

GOAL A: APPLY THE FIELD AXIOMS OF THE REAL NUMBERS.

OBJECTIVES: The student will:	I	R	M	E
1. Graph using a number line		x	x	to
2. Graph using a coordinate plane		x	x	to

SUGGESTED RESOURCES: A 1,2

Bell, E.T. Men Of Mathematics [Book]. New York: Simon and Schuster, 1937.

Hogben, Lancelot. Mathematics for the Millions [Book]. New York: W.W. Norton and Co., 1937.

Newman, James R. The World of Mathematics [Book]. New York: Simon and Schuster, 1956.

Smith, David E. A Source Book in Mathematics [Book]. New York: McGraw-Hill Book Co. Inc., 1929.

GOAL B: APPLY THE LAWS OF ALGEBRA TO ALGEBRAIC FUNCTIONS.

OBJECTIVES: The student will:	I	R	M	E
1. State the definition of function		x	x	o
2. Use correct functional notation		x	x	t
3. Generate a function by composition	x	x	x	t
4. Find the inverse of a given function	x	x		t
5. Determine if a function is continuous of an interval	x	x		o
6. Determine points of discontinuity	x	x	x	o
7. Determine the range and domain of a function	x	x		to
8. Graph polynomial functions	x	x		t
9. Divide polynomials	x	x	x	t
10. Divide polynomials synthetically	x	x	x	t
11. Factor polynomials and determine the value of a polynomial at a given point	x	x	x	t
12. State the Fundamental Theorem of Algebra	x			o
13. State the definition of a logarithmic function	x	x	x	o
14. Apply exponential functions (compound interest, science problems)	x	x	x	t
15. Graph logarithmic functions	x	x		t
16. Determine common logarithms	x	x		to
17. Calculate using common logarithms	x	x		t
18. Solve exponential logarithm equations	x	x		t

SUGGESTED RESOURCES: B 1-18

Algebra 500, A Correlated Curriculum Slide System [Slides].
Trigonometry, Relations and Functions. Pleasantville, N.Y.: Harcourt Brace Jovanovich, Inc., 1970.
Bell, E.T. Men Of Mathematics [Book]. New York: Simon and Schuster, 1937.
Hogben, Lancelot. Mathematics for the Million [Book]. New York: W.W. Norton and Co., 1937.
Newman, James R. The World of Mathematics [Book]. New York: Simon and Schuster, 1956.
Smith, David E. A Source Book in Mathematics [Book]. New York: McGraw-Hill Book Co. Inc., 1929.

GOAL C: USE THE PROPERTIES OF THE RIGHT TRIANGLE.

OBJECTIVES: The student will:	I	R	M	E
1. Define the six trigonometric functions as ratios of the sides of the right triangle	x	x	x	to
2. Use a table to find trigonometric values when an acute angle is known	x	x	x	to
3. Use a table to find the acute angles when the trigonometric ratio is known	x	x	x	to
4. Interpolate to find trigonometric values for angles given in degrees and minutes when the trigonometric value is known	x	x	x	t
5. Find the sides of a right triangle under stated conditions	x	x	x	t
6. Find the acute angle of a right triangle under stated conditions	x	x	x	t
7. Use the angles of elevation and depression to find the sides of a triangle	x	x	x	t
8. Use the legs of a right triangle to find the angle of elevation	x	x	x	t
9. Use the Pythagorean Theorem to establish the 30°, 60°, 90° relationships		x	x	to
10. Use the Pythagorean Theorem to establish the 45°, 45°, 90° triangles		x	x	to
11. Find the trigonometric values for the 30°, 60°, 90°, and 45°, 45°, 90° angles		x	x	tou

SUGGESTED RESOURCES: C 1-11

Algebra 500, A Correlated Curriculum Slide System [Slides].
Trigonometry, Relations and Functions. Pleasantville, N.Y.: Harcourt Brace Jovanovich, Inc., 1970.
Bell, E.T. Men Of Mathematics [Book]. New York: Simon and Schuster, 1937.
Hogben, Lancelot. Mathematics for the Million [Book]. New York: W.W. Norton and Co., 1937.
Newman, James R. The World of Mathematics [Book]. New York: Simon and Schuster, 1956.
Smith, David E. A Source Book in Mathematics [Book]. New York: McGraw-Hill Book Co. Inc., 1929.

GOAL D: SOLVE OBLIQUE TRIANGLES.

OBJECTIVES: The student will:

	I	R	M	E
1. State and prove the Law of Sines	x	x	x	t
2. Find the unknown parts of a triangle using the Law of Sines, given one side and two angles	x	x	x	t
3. Find the unknown parts of a triangle using the Law of Sines given two sides and the angle opposite one of them	x	x	x	t
4. State and prove the Law of Cosines	x	x	x	t
5. Find the unknown parts of a triangle using the Law of Cosines given two sides and their included angle	x	x	x	t
6. Find the unknown parts of a triangle using the Law of Cosines given three sides	x	x	x	tu

SUGGESTED RESOURCES: D 1-6

Algebra 500, A Correlated Curriculum Slide System [Slides].
Trigonometry, Relations and Functions. Pleasantville, N.Y.: Harcourt Brace Jovanovich, Inc., 1970.
Bell, E.T. Men Of Mathematics [Book]. New York: Simon and Schuster, 1937.
Hogben, Lancelot. Mathematics for the Millions [Book]. New York: W.W. Norton and Co., 1937.
Newman, James R. The World of Mathematics [Book]. New York: Simon and Schuster, 1956.
Smith, David E. A Source Book in Mathematics [Book]. New York: McGraw-Hill Book Co. Inc., 1929.

GOAL E: APPLY THE CONCEPTS AND THEORIES LEARNED FOR THE ACUTE ANGLE TO THE GENERAL ANGLE.

OBJECTIVES: The student will:

	I	R	M	E
1. Define the general angle in standard position	x	x	x	to
2. Measure any angle in degrees and radians	x	x	x	to
3. Define the sine and cosine as an ordered pair of numbers on the coordinate plane	x	x	x	to
4. Define the four remaining functions in terms of the sine and cosine	x	x	x	t
5. Find the six trigonometric functions of angles greater than 90°	x	x	x	t
6. State and prove the Pythagorean relationships		x	x	t
7. Express each of the six functions in terms of the other five		x	x	t
8. Use the basic identities to prove trigonometric identities	x	x	x	t

		I	R	M	E
9.	Express the functions of any angle in terms of the functions of a positive angle less than 90°,	x	x	x	t
10.	Express the functions of any angle in the terms of the functions of a positive angle less than 45°	x	x	x	t
11.	Solve conditional trigonometric equations	x	x		t
12.	Derive and apply the formulas for the sine and cosine of the sum of two angles	x	x		t
13.	Derive and apply the double angle formula	x	x		t
14.	Derive and apply the formula for the sine and cosine of the difference of two angles	x	x		t
15.	Derive and apply the half angle formula	x	x		t
16.	Prove identities involving more than one angle	x	x		t
17.	Define domain, range, period, amplitude, frequency and asymptote	x	x		t
18.	State the domain, range, period, frequency of any trigonometric function and the amplitude where applicable	x	x		tu
19.	Graph any trigonometric function	x	x		t
20.	Solve systems of two trigonometric functions and of a trigonometric function and a linear function	x	x		t
21.	Graph each trigonometric function and its inverse	x	x	x	t
22.	Define the principle value of each inverse trigonometric function	x	x		t
23.	Solve inverse trigonometric equations	x	x		tu

SUGGESTED RESOURCES: E 1-22

Algebra 500, A Correlated Curriculum Slide System [Slides].
Trigonometry, Relations and Functions. Pleasantville, N.Y.: Harcourt Brace Jovanovich, Inc., 1970.
Bell, E.T. Men Of Mathematics [Book]. New York: Simon and Schuster, 1937.
Hogben, Lancelot. Mathematics for the Million [Book]. New York: W.W. Norton and Co., 1937.
Newman, James R. The World of Mathematics [Book]. New York: Simon and Schuster, 1956.
Smith, David E. A Source Book in Mathematics [Book]. New York: McGraw-Hill Book Co. Inc., 1929.

PRE-COLLEGE MATHEMATICS

The Pre-College Mathematics program is intended for the Juniors and Seniors who have not totally mastered Algebra I, Algebra II, or Geometry. The first two terms are considered an in depth review of the principles of Algebra and Geometry in order to prepare the student for taking the Scholastic Aptitude Test (SAT.) Refer to the Algebra II and Geometry curricula and especially to the Educational Testing Service materials for specific topics which appear consistently in the SAT Mathematics test.

This course outline for Pre-College Mathematics is followed for the second half of the year. It is intended to prepare students for college freshman mathematics courses in Analysis or Trigonometry.

SUGGESTED RESOURCES

Taking the SAT [Pamphlet], New York: The College Board and Educational Testing Service, 1982, sample tests and solutions, scoring information.

6 SATs Scholastic Aptitude Tests [Book], New York: The College Board, 1982, Sample tests and solutions, scoring information.

The College Board Achievement Tests, [Book], New York: The College Board, 1983, sample math achievement tests with solutions.

Rich, Barnett. Review of Elementary Mathematics. New York: Mcgraw-Hill Book Co., 1977, Solved problems in Arithmetic, Algebra and Geometry.

GOAL A: USE THE LAWS OF EXPONENTS.

	OBJECTIVES: The student will:	I	R	M	E
1.	Multiply, divide and raise to powers using exponents		x	x	t
2.	Find roots and powers using fractional exponents		x	x	t
3.	Write a decimal in scientific notation	x	x	x	t
4.	Change a number written in S.N. to decimal notation	x	x		t
5.	Solve exponential operations	x	x		t
6.	Use exponents and S.N. to simplify problems using very large or very small numbers	x	x		t
7.	Define logarithm, common logarithm, characteristic and mantissa	x	x		t
8.	Use a table to find the logarithm of a decimal number with three or fewer significant digits	x	x		t
9.	Use a table to find a decimal number to three significant digits whose logarithm is known	x	x		t
10.	Interpolate to find the logarithm of a four digit number	x	x		t
11.	Interpolate to find to four digits a number whose logarithm is known	x	x		t
12.	Use logarithms, multiply, divide, raise to a power or take roots of large numbers	x	x		t
13.	Find compound interest by using logarithms	x	x		t
14.	Solve various types of mathematics and physics problems using logarithms	x	x		t

GOAL B: USE THE PROPERTIES OF ALGEBRA AND GEOMETRY TO STUDY TRIGONOMETRY OF THE RIGHT TRIANGLE.

	OBJECTIVES: The student will:	I	R	M	E
1.	Define the six trigonometric functions as ratios of the legs of a right triangle	x	x		t
2.	Use a table to find trigonometric values when an acute angle is known	x	x		t
3.	Use a table to find an acute angle when the trigonometric value is known	x	x		t
4.	Interpolate	x	x		t
5.	Find the sides of a right triangle when the acute angles are known	x	x		t
6.	Find the acute angles of a right triangle	x	x		t
7.	Use the angles of elevation and depression to find the sides of a right triangle	x	x		t
8.	Use the legs of a right triangle to find the angles of elevation and depression	x	x		t
9.	Solve word problems using trigonometric ratios	x	x		t
10.	Establish the 30-60-90 relationships using the Pythagorean Theory	x	x		ot
11.	Establish the 45-45-90 relationship using the Pythagorean Theory	x	x		ot
12.	Find the trigonometric values for the 30-60-90 and 45-45-90 angles	x	x		otu

GOAL C: APPLY THE PRINCIPLES OF RIGHT TRIANGLE TRIGONOMETRY TO THE COORDINATE PLANE.

OBJECTIVES: The student will:

		I	R	M	E
1.	Define the six trigonometric functions as ratios of the coordinates of a point	x	x		t
2.	Find the trigonometric values of angles in each quadrant	x	x		t
3.	Find the value of angles greater than 360°	x	x		t
4.	Find the trigonometric values of negative angles	x	x		t
5.	Use the unit circle to find trigonometric values of the quadrantal angles (0°, 90°, 180°, 270°, 360°)	x	x		ut
6.	Measure angles in degrees	x	x		t
7.	Measure angles in radians	x	x		t
8.	Compare degrees to radians	x	x		t
9.	Convert degrees to radians and radians to degrees	x	x		t
10.	Find the length of an arc	x	x		t
11.	Define the reciprocal identities, quotient identities and the Pythagorean identities	x	x		t
12.	Verify identities	x	x		t
13.	Define domain, range, period amplitude, frequency and asymptote in relationship to the trignonometric functions	x	x		t
14.	Graph functions of the type Y=(a) sine x, Y=sine(bx), and Y=(a) sine(bx)	x	x		t
15.	Solve systems of two trigonometric functions or of a trigonometric function and a linear function	x	x		t
16.	Apply knowledge of the trigonometric functions to other subjects such as physics, biology and electronics	x	x		t
17.	Graph each function and its inverse	x	x		t
18.	Define the principal value of each inverse trigonometric function	x	x		u
19.	Solve inverse trigonometric equations	x	x		t
20.	Develop the formulas for the sum and differences of two triangles	x	x		t
21.	Find the trigonometric value of angles without a trigonometric table using the sum and difference formulas	x	x		t
22.	Develop the double angle formulas	x	x		t
23.	Use the double angle formulas to find trigonometric values of angles without a trigonometric table	x	x		t
24.	Develop the half-angle formulas	x	x		t
25.	Use the half-angle formulas to find trigonometric values of tables without a trigonometric table	x	x		t
26.	Prove trigonometric identities using the sum and difference of angles formulas, double angle formulas, and half angle formulas	x	x		t

NOTE: All reference materials for the Pre-Calculus course objectives C and E apply to Pre-College Mathematics objectives B and C.

COURSE: Calculus

TEXT: Elements of Calculus and Analytic Geometry

GOAL A: DEMONSTRATE AN UNDERSTANDING OF ALGEBRAIC, TRIGONOMETRIC, EXPONENTIAL AND LOGARITHMIC FUNCTIONS.

OBJECTIVES: The student will:	I	R	M	E
1. Determine the domain and range of a function		x	x	o
2. Rewrite radical and absolute value functions as linear functions	x	x	x	u
3. Compose functions by addition, multiplication, and division		x	x	u
4. Decompose functions by addition, multiplication, and division	x	x	x	u
5. Find the inverse of a given function		x	x	ou
6. Determine whether a function is odd, even, or neither	x	x	x	u
7. Find the zeros (X-intercepts) of a function		x	x	u
8. Determine the periodicity and amplitude of a given function where applicable		x	x	ou
9. Determine the axis of symmetry and find the asymptotes of a given function where applicable				u

SUGGESTED RESOURCES: A 1-9

Dressler, Robert E. and Karl Stromberg. Techniques of Calculus, [Book]. New York: Amsco College Publications, 1983.
Hockett, Shirley O. Barron's How to Prepare for Advanced Placement Mathematics. [Workbook]. Woodbury, N.Y.: Barron's Educational Series, Inc., 1971.
Kalmanson, Kenneth. Calculus, A Practicle Approach [Book]. New York: Worth Publishers, Inc., 1975.
Kindle, Joseph H. Theory and Problems of Plane and Solid Geometry [Book]. New York: McGraw Hill Book Co., 1950.
Morgan, Frank M. Differential and Integral Calculus [Book]. New York: American Book Co., 1948.
Richmond, Donald E. Fundamentals of the Calculus [Book]. New York: McGraw Hill, 1950.
Riddle, Douglas F. Calculus and Analytic Geometry [Book]. Belmont, California, 1970.
Spiegel, Murray R. Theory and Problems of Advanced Calculus [Workbook]. New York: McGraw Hill Book Co., 1963.
Weisbeaker, Dr. H., Chief Editor. The Calculus Problem Solver [Book]. New York: Research and Educational Association, 1976.

GOAL B: APPLY THE THEORIES LEARNED FOR LINEAR FUNCTIONS TO ALL FUNCTIONS.

OBJECTIVES: The student will:

	I	R	M	E
1. Find the derivative of a function using the definition of slope: $f'(x) = \lim_{h \to o} \frac{f(x+h) - f(x)}{h}$	x	x	x	u
2. Find the derivative of a polynomial function using the rule for polynomials: if $f(x) = x^n$ then $f'(x) = nx^n$	x	x	x	u
3. Find the derivative of functions using the sum, product, and quotient rules where indicated	x	x	x	u
4. Find the derivative of a composite function using the chain rule	x	x	x	uo
5. Find the derivative of functions using implicit differentiation	x	x	x	u
6. Find the derivative of trigonometric, inverse trigonometric, logarithmic and exponential functions	x	x	x	u
7. Find higher order derivatives using all of the derivative techniques	x	x	x	u
8. State the Mean Value Theorem (without proof), graphically illustrate the theorem and apply it	x	x	x	ou
9. State Rolle's Theorem (without proof), and apply it	x	x	x	ou
10. Define differentiability and continuity	x	x	x	otu

SUGGESTED RESOURCES: B 1-10

Dressler, Robert E. and Karl Stromberg. Techniques of Calculus, [Book]. New York: Amsco College Publications, 1983.

Hockett, Shirley O. Barron's How to Prepare for Advanced Placement Mathematics. [Workbook]. Woodbury, N.Y.: Barron's Educational Series, Inc., 1971.

Kalmanson, Kenneth. Calculus, A Practicle Approach [Book]. New York: Worth Publishers, Inc., 1975.

Kindle, Joseph H. Theory and Problems of Plane and Solid Geometry [Book]. New York: McGraw Hill Book Co., 1950.

Morgan, Frank M. Differential and Integral Calculus [Book]. New York: American Book Co., 1948.

Richmond, Donald E. Fundamentals of the Calculus [Book]. New York: McGraw Hill, 1950.

Riddle, Douglas F. Calculus and Analytic Geometry [Book]. Belmont, California, 1970.

Spiegel, Murray R. Theory and Problems of Advanced Calculus [Workbook]. New York: McGraw Hill Book Co., 1963.

Weisbeaker, Dr. H., Chief Editor. The Calculus Problem Solver [Book]. New York: Research and Educational Association, 1976.

GOAL C: APPLY THE METHODS OF FINDING DERIVATIVES.

OBJECTIVES: The student will:	I	R	M	E
1. Determine the slope of a curve and the equations of the tangent and normal to a curve at a given point	x	x	x	ou
2. Sketch a curve being able to:				
a. Use the first derivative to determine maximum and minimum points (relative and absolute)	x	x	x	u
b. Use the second derivative to determine concavity and points of inflection	x	x	x	u
3. Set up and solve extreme value (maximum-minimum) problems especially relating to the fields of science, economics and business	x	x	x	u
4. Find the velocity and acceleration of a particle moving along a path	x	x	x	u
5. Find the average and instantaneous rates of change	x	x	x	u
6. Set up and solve problems using related rates	x	x	x	u

SUGGESTED RESOURCES: C 1-6

Dressler, Robert E. and Karl Stromberg. Techniques of Calculus, [Book]. New York: Amsco College Publications, 1983.

Hockett, Shirley O. Barron's How to Prepare for Advanced Placement Mathematics. [Workbook]. Woodbury, N.Y.: Barron's Educational Series, Inc., 1971.

Kalmanson, Kenneth. Calculus, A Practical Approach [Book]. New York: Worth Publishers, Inc., 1975.

Kindle, Joseph H. Theory and Problems of Plane and Solid Geometry [Book]. New York: McGraw Hill Book Co., 1950.

Morgan, Frank M. Differential and Integral Calculus [Book]. New York: American Book Co., 1948.

Richmond, Donald E. Fundamentals of the Calculus [Book]. New York: McGraw Hill, 1950.

Riddle, Douglas F. Calculus and Analytic Geometry [Book]. Belmont, California, 1970.

Spiegel, Murray R. Theory and Problems of Advanced Calculus [Workbook]. New York: McGraw Hill Book Co., 1963.

Weisbeaker, Dr. H., Chief Editor. The Calculus Problem Solver [Book]. New York: Research and Educational Association, 1976.

GOAL D: FIND ANTIDERIVATIVES.

OBJECTIVES: The student will:	I	R	M	E
1. Apply basic integration formulas for polynomial and other functions	x	x	x	u
2. Integrate by using identities for the trigonometric functions	x	x	x	u
3. Integrate by using substitution in exponential and inverse trigonometric functions	x	x	x	u
4. Integrate by partial fractions	x	x	x	u
5. Integrate by parts or repeatedly by parts	x	x	x	u

SUGGESTED RESOURCES: D 1-5

Dressler, Robert E. and Karl Stromberg. Techniques of Calculus, [Book]. New York: Amsco College Publications, 1983.

Hockett, Shirley O. Barron's How to Prepare for Advanced Placement Mathematics. [Workbook]. Woodbury, N.Y.: Barron's Educational Series, Inc., 1971.

Kalmanson, Kenneth. Calculus, A Practicle Approach [Book]. New York: Worth Publishers, Inc., 1975.

Kindle, Joseph H. Theory and Problems of Plane and Solid Geometry [Book]. New York: McGraw Hill Book Co., 1950.

Morgan, Frank M. Differential and Integral Calculus [Book]. New York: American Book Co., 1948.

Richmond, Donald E. Fundamentals of the Calculus [Book]. New York: McGraw Hill, 1950.

Riddle, Douglas F. Calculus and Analytic Geometry [Book]. Belmont, California, 1970.

Spiegel, Murray R. Theory and Problems of Advanced Calculus [Workbook]. New York: McGraw Hill Book Co., 1963.

Weisbeaker, Dr. H., Chief Editor. The Calculus Problem Solver [Book]. New York: Research and Educational Association, 1976.

GOAL E: EVALUATE THE DEFINITE INTEGRAL, USING INTEGRATION TECHNIQUES.

OBJECTIVES: The student will:	I	R	M	E
1. Find distance and velocity given initial conditions	x	x	x	u
2. Use inscribed and circumscribed rectangles to approximate area under a curve	x	x	x	u
3. Use the trapezoidal rule to approximate area under a curve	x	x	x	u
4. Define the definite integral as the limit of a sum	x	x	x	ou
5. Write out the proofs of the summation formulas using mathematical induction	x	x	x	u
6. Apply the Fundamental Theorem of Integral Calculus	x	x	x	u
7. Find the area under a curve	x	x	x	u
8. Find the volume of a solid generated by rotating a given area about an axis:				
a. Use the " x" or " y" slice or disc method				
b. Use the " x" or " y" washer method				
c. Use the cylindrical shell method	x	x	x	u

		I	R	M	E
9.	Find the length of a plane curve	x	x	x	u
10.	Find the area of a surface of revolution	x	x	x	u

SUGGESTED RESOURCES: E 1-10

Dressler, Robert E. and Karl Stromberg. Techniques of Calculus, [Book]. New York: Amsco College Publications, 1983.

Hockett, Shirley O. Barron's How to Prepare for Advanced Placement Mathematics. [Workbook]. Woodbury, N.Y.: Barron's Educational Series, Inc., 1971.

Kalmanson, Kenneth. Calculus, A Practicle Approach [Book]. New York: Worth Publishers, Inc., 1975.

Kindle, Joseph H. Theory and Problems of Plane and Solid Geometry [Book]. New York: McGraw Hill Book Co., 1950.

Morgan, Frank M. Differential and Integral Calculus [Book]. New York: American Book Co., 1948.

Richmond, Donald E. Fundamentals of the Calculus [Book]. New York: McGraw Hill, 1950.

Riddle, Douglas F. Calculus and Analytic Geometry [Book]. Belmont, California, 1970.

Spiegel, Murray R. Theory and Problems of Advanced Calculus [Workbook]. New York: McGraw Hill Book Co., 1963.

Weisbeaker, Dr. H., Chief Editor. The Calculus Problem Solver [Book]. New York: Research and Educational Association, 1976.

COURSE: RECORD KEEPING

TEXT: Baron, Steinfeld. Practical Record Keeping, 5th Ed. Southwestern Publishing Co., Cincinnati, Ohio, 1975.

GOAL A: LEARN THE INTRODUCTION TO THE STUDY OF RECORD KEEPING.

OBJECTIVES: The student will:	I	R	M	E
1. Compare names, numbers and addresses	x	x	x	ots
2. Arrange numbers and dates	x	x	x	ots
3. File business papers	x	x	x	ots

SUGGESTED RESOURCES:

A 1-3 Baron, Steinfeld. Working Papers and Supplementary Problems for Practical Record Keeping, 5th Ed. Cincinnati, Ohio: Southwestern Publishing Co., 1977 (Units 1-7 and Units 8-12).

GOAL B: LEARN THE PREPARATION AND RECORDING OF RECEIPTS.

OBJECTIVES: The student will:	I	R	M	E
1. Learn how to prepare receipts when you receive money	x	x	x	ots
2. Learn how to record the receipts as a cashier	x	x	x	ots
3. Practice using cashier's records	x	x		ots
4. Learn as a cashier how to prove that the amount of money in the cash register at the end of the day's business is correct	x	x		ots
5. Give practice in preparing a "Proof of Cash" form	x	x		ots
6. Prove cash at the end of the day	x	x		ots
7. Learn how to prepare a deposit slip	x	x		ots
8. Prepare tally sheets	x	x		ots

SUGGESTED RESOURCES:

B 1-8 Baron, Steinfeld. Working Papers and Supplementary Problems for Practical Record Keeping, 5th Ed. Cincinnati, Ohio: Southwestern Publishing Co., 1977. (Units 1-7 and Units 8-12).

COURSE: RECORD KEEPING

GOAL C: LEARN HOW TO MAINTAIN RECORDS FOR BANKING.

OBJECTIVES: The student will:	I	R	M	E
1. Learn how to open a checking account and how to write checks	x	x		ots
2. Learn to get experience in writing checks and to learn how to find the checkbook balance when additional deposits are made	x	x		ots
3. Learn how to use a check register	x	x		ots
4. Learn how check are sent to transfer money from one person to another	x	x		ots
5. Learn about bank statements and how they are used to check the accuracy to the checkbook balance	x	x		ots
6. Practice preparing bank reconciliation statements	x	x		ots

SUGGESTED RESOURCES:

C 1-6 Baron, Steinfeld. Working Papers and Supplementary Problems for Practical Record Keeping, 5th Ed. Cincinnati, Ohio: Southwestern Publishing Co., 1977. (Units 1-7 and Units 8-12).

GOAL D: LEARN HOW TO MAINTAIN RECORDS FOR PETTY CASH.

OBJECTIVES: The student will:	I	R	M	E
1. Learn how to record payments made from a petty cash fund	x	x		ots
2. Learn how to classify business expenses	x	x		ots
3. Learn how to record Petty Cash vouchers in a Petty Cash book	x	x		ots
4. Practice recording Petty Cash vouchers in the Petty Cash book	x	x		ots

SUGGESTED RESOURCES:

D 1-4 Baron, Steinfeld. Working Papers and Supplementary Problems for Practical Record Keeping, 5th Ed. Cincinnati, Ohio: Southwestern Publishing Co., 1977. (Units 1-7 and Units 8-12).

COURSE: RECORD KEEPING

GOAL E: LEARN HOW TO KEEP RECORDS FOR A FAMILY.

OBJECTIVES: The student will:	I	R	M	E
1. Learn why and how to keep a budget	x	x		ots
2. Learn how to keep a record of income and expenses	x	x		ots
3. Learn how to record daily payments	x	x		ots
4. Learn how to keep budget records for a family	x	x		ots

SUGGESTED RESOURCES:

E 1-4 Baron, Steinfeld. Working Papers and Supplementary Problems for Practical Record Keeping, 5th Ed. Cincinnati, Ohio: Southwestern Publishing Co., 1977. (Units 1-7 and Units 8-12).

GOAL F: LEARN HOW TO KEEP RECORDS AS A SALES CLERK.

OBJECTIVES: The student will:	I	R	M	E
1. Learn how to complete a sales slip for a retail store	x	x	x	ots
2. Learn how to record the receipt and sale of merchandise on a stock room record card	x	x		ots
3. Practice keeping stock record cards	x	x		ots
4. Practice making out requests for merchandise	x	x		ots
5. Learn how a stock clerk keeps a record of purchase requisitions	x	x		ots
6. Learn how to use a three-column account for charge customers	x	x		ots

SUGGESTED RESOURCES:

F 1-6 Baron, Steinfeld. Working Papers and Supplementary Problems for Practical Record Keeping, 5th Ed. Cincinnati, Ohio: Southwestern Publishing Co., 1977. (Units 1-7 and Units 8-12).

TOPIC: RECORD KEEPING

GOAL G: LEARN HOW TO KEEP STOCK RECORD CARDS.

OBJECTIVES: The student will:

	I	R	M	E
1. Learn why accurate records of merchandise must be kept	x	x		ots
2. Learn how to record the receipt and sale of merchandise on a stockroom record card	x	x		ots
3. Practice keeping stock record cards	x	x		ots
4. Practice making out requests for merchandise	x	x		ots
5. Learn bow a stock clerk keeps a record or purchase requisitions	x	x		ots

SUGGESTED RESOURCES:

G 1-5 Baron, Steinfeld. Working Papers and Supplementary Problems for Practical Record Keeping, 5th Ed. Cincinnati, Ohio: Southwestern Publishing Co., 1977. (Units 1-7 and Units 8-12).

GOAL H: LEARN HOW TO KEEP RECORDS FOR THE PURCHASING DEPARTMENT.

OBJECTIVES: The student will:

	I	R	M	E
1. Learn how to keep records of the prices that different companies charge for the same item	x	x		ots
2. Learn how to prepare purchase orders and check invoices	x	x		ots
3. Learn how to keep a record of the amounts owed to creditors	x	x		ots
4. Learn how to use a three-column creditor account	x	x		ots
5. Learn how to make a schedule of accounts payable	x	x		ots
6. Learn how to record purchases in a purchase journal	x	x		ots
7. Learn how to post	x	x		ots
8. Learn how to file approved purchase invoices	x	x		ots
9. Learn how to record cash paid to creditors in a Cash Payments Journal	x	x		ots
10. Learn how to post from Cash Payments Journal to the Creditors account in the Accounts Payable Ledger	x	x		ots

SUGGESTED RESOURCES:

H 1-10 Baron, Steinfeld. Working Papers and Supplementary Problems for Practical Record Keeping, 5th Ed. Cincinnati, Ohio: Southwestern Publishing Co., 1977. (Units 1-7 and Units 8-12).

COURSE: RECORD KEEPING

GOAL I: LEARN HOW TO KEEP RECORDS FOR A WHOLESALE SALES DEPARTMENT.

OBJECTIVES: The student will:	I	R	M	E
1. Learn how sales orders are used in business	x	x		ots
2. Learn how to prepare sales invoices for a wholesale business	x	x		ots
3. Learn how to record amounts owed to a wholesale business by customers	x	x		ots
4. Practice recording merchandise returned by customers	x	x		ots
5. Learn how to record sales in a sales journal	x	x		ots
6. Learn how to record cash received from customers in a Cash Receipts Journal	x	x		ots
7. Learn how to record credit memoranda in a Sales Returns and Allowances Journal	x	x		ots
8. Practice preparing Statements of Account	x	x		ots

SUGGESTED RESOURCES:

I 1-8 Baron, Steinfeld. Working Papers and Supplementary Problems for Practical Record Keeping, 5th Ed. Cincinnati, Ohio: Southwestern Publishing Co., 1977. (Units 1-7 and Units 8-12).

COURSE: RECORD KEEPING

GOAL J: LEARN HOW TO KEEP RECORDS FOR THE PAYROLL DEPARTMENT.	I	R	M	E
OBJECTIVES: The student will:				
1. Learn how to use time cards and record information in a payroll book	x	x		ots
2. Learn how to complete wages of workers paid on an hourly basis	x	x		ots
3. Learn how to figure the number of overtime bonus hours	x	x		ots
4. Practice finding the total wages earned by employees when they work overtime	x	x		ots
5. Practice using a payroll book	x	x		ots
6. Learn how to get a social security card	x	x		ots
7. Learn how to figure deductions for social security	x	x		ots
8. Practice using a withholding tax table	x	x		ots
9. Learn how to enter the information in a payroll book	x	x		ots
10. Learn the meaning of currency break-up	x	x		ots
11. Learn why and how to prepare a currency break-up	x	x		ots
12. Learn how to prepare a currency memorandum	x	x		ots
13. Learn how to keep a record of each employee's earnings, federal withholding tax deductions and social security deductions	x	x		ots
14. Learn why and how to prepare Form W-2	x	x		ots

SUGGESTED RESOURCES:

J 1-14 Baron, Steinfeld. Working Papers and Supplementary Problems for Practical Record Keeping, 5th Ed. Cincinnati, Ohio: Southwestern Publishing Co., 1977 (Units 1-7 and Units 8-12).

COURSE: RECORD KEEPING

GOAL K: LEARN HOW TO KEEP RECORDS FOR SMALL BUSINESSES.	I	R	M	E
OBJECTIVES: The student will:				
1. Learn how to prepare an income statement for a retail business	x	x		ots
2. Learn how business people keep a record of their expenses	x	x		ots
3. Learn how to record personal expenses in a Cash Payment Journal	x	x		ots
4. Practice keeping a checkbook with a Cash Receipts Journal and a Cash Payments Journal	x	x		ots
5. Review the use of a bank reconciliation statement	x	x		ots
6. Practice using the Cash Receipts Journal	x	x		ots
7. Practice posting to the General Ledger				
8. Learn how to post to expense accounts in the General Ledger	x	x		ots
9. Practice recording in the Cash Payments Journal	x	x		ots

SUGGESTED RESOURCES:

K 1-9 Baron, Steinfeld. Working Papers and Supplementary Problems for Practical Record Keeping, 5th Ed. Cincinnati, Ohio: Southwestern Publishing Co., 1977. (Units 1-7 and Units 8-12).

COURSE: BUSINESS MATHEMATICS

TEXT: Fairbank, Schultheis. Applied Business Mathematics. 11th Ed.
Southwestern Publishing Co., Cincinnati, Ohio, 1980.

GOAL A: DEMONSTRATE COMPETENCY IN KEEPING MONEY RECORDS.

OBJECTIVES: The student will:

	I	R	M	E
1. Prepare a written record of cash received and paid out for a person and a family	x	x	x	ots
2. Fill out a bank deposit slip	x	x	x	ots
3. Complete a check-stub record	x	x	x	ots
4. Prepare a bank reconciliation statement to adjust the bank statement and checkbook balance	x	x	x	ots
5. Read, write, speak and recognize the meaning of terms relating to money records	x	x	x	ots

GOAL B: DEMONSTRATE A PROFICIENCY IN SOLVING BUYING PROBLEMS.

OBJECTIVES: The student will:

	I	R	M	E
1. Prepare a sales slip indicating the quantity, description, unit price, total price for each item purchased, and the total amount of the sale	x	x	x	ots
2. Compute the sales tax charged by a city, county, or state	x	x	x	ots
3. Utilize aliquot part in preparation of a sales slip	x	x		ots
4. Compute the unit price of items for comparison purposes	x	x		ots
5. Calculate the average prices of a group of items	x	x		ots
6. Compute the cost of a fraction of a unit	x	x		ots
7. Determine the cost of an item when the amount purchased or the unit purchased is a mixed number	x	x		ots
8. Compute the unit price when the price of the item is for a fraction of a unit	x	x		ots
9. Read, write, speak and recognize the meaning of terms relating to buying (reviewing of percents)	x	x	x	ots

COURSE: BUSINESS MATHEMATICS

GOAL C: DEMONSTRATE AN ABILITY TO SOLVE PROBLEMS RELATING TO WAGE INCOME.

OBJECTIVES: The student will:

	I	R	M	E
1. Figure gross pay for employees involving the calculation of regular pay and overtime pay	x	x	x	ots
2. Figure net pay for employees involving deductions for income tax and social security tax	x	x		ots
3. Figure time worked and net pay for an employee using a time card record	x	x		ots
4. Figure price rate wages for an employee	x	x		ots
5. Prepare a cash record of income and expenses for an individual and a family for a year	x	x	x	ots
6. Prepare a budget for an individual and a family for a year	x	x	x	ots
7. Compute straight and graduated commissions	x	x		ots
8. Compute net proceeds in common commission transactions	x	x		ots
9. Compute the rate of commission on sales	x	x		ots
10. Read, write, speak and recognize the meaning of terms relating to wage income	x	x	x	ots

SUGGESTED RESOURCES:

C 1-10 Federal Income Tax Unit:
IRS Packet: Understanding Taxes 1985, Student Text Publication 21.

GOAL D: DEMONSTRATE AN UNDERSTANDING OF THE PROCESSES OF BORROWING MONEY AND MAKING INSTALLMENT PURCHASES.

OBJECTIVES: The student will:

	I	R	M	E
1. Compute the interest amount due and date of maturity for interest bearing notes	x	x		ots
2. Compute the proceeds and due date of discounted notes	x	x		ots
3. Compute interest and amount due for real estate mortgages	x	x		ots
4. Compute finance charge, installment payments for installment loans	x	x		ots
5. Read, write, speak and recognize the meaning of terms relating to borrowing money	x	x	x	ots

COURSE: BUSINESS MATHEMATICS

GOAL E: DEMONSTRATE AN UNDERSTANDING OF THE SAVING AND INVESTING OF MONEY.

OBJECTIVES: The student will:	I	R	M	E
1. Figure interest on savings accounts	x	x	x	ots
2. Figure premiums on life insurance policies	x	x		ots
3. Read the daily stock and bond quotation tables	x			ots
4. Compute stock and bond income	x			ots
5. Compute profit or loss on sale of stock	x			ots
6. Figure rent income on real estate property	x			ots
7. Figure rent to charge on real estate property	x			ots
8. Read, write, speak, and recognize the meaning of terms relating to the saving and investing of money	x	x	x	ots

GOAL F: DEMONSTRATE AN ABILITY TO SOLVE PROBLEMS OF HOME OWNERSHIP.

OBJECTIVES: The student will:	I	R	M	E
1. Figure the cost of owning a home	x			ots
2. Calculate monthly payments and total interest using tables for a mortgage loan	x			ots
3. Figure the real estate taxes on a home	x			ots
4. Figure the insurance premium on a home	x			ots
5. Figure the amount of electricity, gas, water, and phone bills	x	x		ots
6. Compare store prices for household items	x	x		ots
7. Read, write, speak and recognize the terms relating to home ownership	x	x	x	ots

GOAL G: DEMONSTRATE AN UNDERSTANDING OF FACTORS PERTAINING TO PERSONAL TRAVEL AND TRANSPORTING GOODS.

OBJECTIVES: The student will:	I	R	M	E
1. Calculate the cost of owning and operating a car including straight-line depreciation and operating expenses	x	x		ots
2. Compute premiums for car insurance	x			ots
3. Prepare a travel expense record	x	x		ots
4. Find costs of shipping goods by parcel post, express, and freight	x			ots
5. Read, write, speak, and recognize the terms relating to personal travel and transportation of goods	x	x	x	ots

COURSE: BUSINESS MATHEMATICS

GOAL H: DEMONSTRATE A COMPETENCY IN DETERMINING SALES, INCOME, FICA AND PROPERTY TAXES.

OBJECTIVES: The student will:

	I	R	M	E
1. Compute the tax rate for property	x			ots
2. Compute sales and excise taxes	x			ots
3. Compute the social security taxes for employers and self employed people	x			ots
4. Compute federal and state income taxes using tables	x			ots
5. Read, write, speak and recognize the meanings of terms relating to taxes	x	x	x	ots

GOAL I: DEMONSTRATE AN UNDERSTANDING OF THE GENERAL PROBLEMS OF A SMALL BUSINESS.

OBJECTIVES: The student will:

	I	R	M	E
1. Prepare a balance sheet and an income statement	x			ots
2. Prepare a payroll register from time card information	x			ots
3. Prepare and interpret bar, line, rectangular and circle charts for sales and expenses	x			ots
4. Read, write, speak, and recognize the meanings of terms relating to small business	x	x	x	ots

COURSE: BUSINESS MATHEMATICS

GOAL J: DETERMINE AN UNDERSTANDING OF THE BUYING AND SELLING PROBLEMS OF A RETAILER.

OBJECTIVES: The student will:	I	R	M	E
1. Figure and check the extensions and cash discount on a purchase invoice	x	x	x	ots
2. Find the due date of an invoice and the last day on which a cash discount may be taken	x	x	x	ots
3. Find net purchases, buying expense, and total cost of merchandise	x	x	x	ots
4. Find the invoice price given single and series trade discounts	x	x		ots
5. Find the single discount equivalent to a series discount	x			ots
6. Prove cash and find cash short and over	x	x		ots
7. Find the mark down and selling price when the marked price and rate of discount are known	x			ots
8. Find the rate of discount on the marked price	x			ots
9. Find gross profit and net income on sales	x	x		ots
10. Find the selling price needed to give the rate of markup wanted on the cost	x			ots
11. Find the marked price, given a selling price and rate of discount	x			ots
12. Find the selling price which will cover operating expenses and give the rate of gross profit needed	x			ots
13. Find cost price, given a selling price and rate of markup on cost	x			ots
14. Read, write, speak, and recognize the meaning of words relating to retail buying and selling	x	x	x	ots

COURSE: BUSINESS MATHEMATICS

GOAL K: DEMONSTRATE AN UNDERSTANDING OF SOME PROBLEMS OF A WHOLESALER.

OBJECTIVES: The student will:	I	R	M	E
1. Check the accuracy of invoices	x	x		ots
2. Make entries in a customer's account	x			ots
3. Compute the proceeds of discounted-non interest bearing and interest-bearing notes	x	x		ots
4. Compute the amount and rate of claims paid to creditors in bankruptcy	x			ots
5. Read, write, speak, and recognize the meaning of terms relating to a wholesale business	x	x	x	ots

GOAL L: DEMONSTRATE AN UNDERSTANDING OF SOME PROBLEMS OF A MANUFACTURING BUSINESS.

OBJECTIVES: The student will:	I	R	M	E
1. Figure costs of raw material, direct labor, and factory expenses	x			ots
2. Distribute factory expense on several different bases	x			ots
3. Figure a manufacturers net income	x			ots
4. Read, write, speak, and recognize the meaning of terms relating to a manufacturing business	x	x	x	ots

GOAL M: DEMONSTRATE COMPETENCY IN BASIC IDEAS OF PROBABILITY AND PRINCIPLES OF THE BINARY SYSTEM.

OBJECTIVES: The student will:	I	R	M	E
1. Explain the nature and function of place value in the decimal and binary systems	x	x	x	ots
2. Express values in the binary system and perform simple addition, subtraction, multiplication, and division problems in binary	x	x	x	ots
3. Explain the basic ideas of probability and be able to solve simple probability problems	x	x	x	ots

COURSE: ACCOUNTING I

TEXT: Century 21 Accounting, Introductory Course, 2nd Ed.
Southwestern Publishing Co., Cincinnati, Ohio, 1977.

GOAL A: KNOW THE TERMINOLOGY RELATED TO ACCOUNTING CAREERS.

OBJECTIVES: The student will:	I	R	M	E
1. Define terminology related to accounting careers	x	x	x	ots

SUGGESTED RESOURCES:

A 1 Swanson, Boynton, and Hanson Ross. Working Papers for Century 21, Accounting, Introductory Course, 2nd Ed. Cincinnati, Ohio: Southwestern Publishing Co., 1978. (Chapters 1-14).

GOAL B: UNDERSTAND ENTRY-LEVEL POSITIONS, ADVANCEMENT-LEVEL POSITIONS, EDUCATIONAL REQUIREMENTS, AND CAREER OPPORTUNITIES IN ACCOUNTING.

OBJECTIVES: The student will:	I	R	M	E
1. Identify how accounting is a foundation for careers and personal financial life	x			ots
2. Identify the differences in the work of accountants, bookkeepers accounting clerks, and general office clerks	x			ots

SUGGESTED RESOURCES:

B 1,2 Swanson, Boynton, and Hanson Ross. Working Papers for Century 21, Accounting, Introductory Course, 2nd Ed. Cincinnati, Ohio: Southwestern Publishing Co., 1987. (Chapters 1-14).

GOAL C: UNDERSTAND BASIC ACCOUNTING CONCEPTS.

OBJECTIVES: The student will:	I	R	M	E
1. Identify applications of eleven basic accounting concepts	x	x		ots

SUGGESTED RESOURCES:

C 1 Swanson, Boynton, and Hanson Ross. Working Papers for Century 21, Accounting, Introductory Course, 2nd Ed. Cincinnati, Ohio: Southwestern Publishing Co., 1978. (Chapters 1-14).

COURSE: ACCOUNTING I

GOAL D: JOURNALIZE BUSINESS TRANSACTIONS.

OBJECTIVES: The student will:	I	R	M	E
1. Define accounting terms related to journalizing business transactions	x	x	x	ots
2. Explain accounting principles and practices related to journalizing business transactions	x	x	x	ots
3. Record transactions in a multi-column cash journal	x	x	x	ots
4. Prove cash	x	x	x	ots
5. Prove equality of debits and credits in a cash journal	x	x	x	ots
6. Rule a cash journal	x	x	x	ots

SUGGESTED RESOURCES:

D 1-6 Swanson, Boynton, and Hanson Ross. Working Papers for Century 21, Accounting, Introductory Course, 2nd Ed. Cincinnati, Ohio: Southwestern Publishing Co., 1978. (Chapters 1-14).

GOAL E: LEARN TO POST.

OBJECTIVES: The student will:	I	R	M	E
1. Explain accounting principles and practices related to posting	x	x	x	ots
2. Arrange accounts for a small service business in a chart of accounts	x	x	x	ots
3. Post accounts from General Amount columns of a Cash Journal	x	x	x	ots
4. Post column totals of a cash journal	x	x	x	ots
5. Complete an accounting cycle to a sole proprietorship using a cash journal	x	x	x	ots

SUGGESTED RESOURCES:

E 1-5 Swanson, Boynton, and Hanson Toss. Working Papers for Century 21, Accounting, Introductory Course, 2nd Ed. Cincinnati, Ohio: Southwestern Publishing Co., 1978. (Chapters 1-14).

COURSE: ACCOUNTING I

GOAL F: PREPARE A SIX COLUMN WORKSHEET.

OBJECTIVES: The student will:	I	R	M	E
1. Define accounting terms related to a six-column worksheet	x	x	x	ots
2. Explain accounting principles and practices related to a six-column worksheet	x	x	x	ots
3. Complete a six-column worksheet and sort account balances on a six-column worksheet	x	x	x	ots

SUGGESTED RESOURCES:

F 1-3 Swanson, Boynton, and Hanson Ross. Working Papers for Century 21, Accounting, Introductory Course, 2nd Ed. Cincinnati, Ohio: Southwestern Publishing Co., 1978. (Chapters 1-14).

GOAL G: PREPARE FINANCIAL STATEMENTS.

OBJECTIVES: The student will:	I	R	M	E
1. Define accounting terms related to financial statements	x	x	x	ots
2. Explain accounting principles and practices related to financial statements	x	x	x	ots
3. Prepare an income statement using information from a six-column worksheet	x	x	x	ots
4. Prepare a balance sheet using information from a six-column worksheet	x	x	x	ots

SUGGESTED RESOURCES:

G 1-4 Swanson, Boynton, and Hanson Ross. Working Papers for Century 21, Accounting, Introductory Course, 2nd Ed. Cincinnati, Ohio: Southwestern Publishing Co., 1978. (Chapters 1-14).

COURSE: ACCOUNTING I

GOAL H: CLOSE A LEDGER.

OBJECTIVES: The student will:

	I	R	M	E
1. Define accounting terms related to closing the ledger	x	x	x	ots
2. Explain accounting principles and practices related to closing a ledger	x	x	x	ots
3. Analyze closing entries for a service business	x	x	x	ots
4. Record closing entries for a service business	x	x	x	ots
5. Post closing entries	x	x	x	ots
6. Prepare a post-closing trial balance	x	x	x	ots

SUGGESTED RESOURCES:

H 1-6 Swanson, Boynton, and Hanson Ross. Working Papers for Century 21, Accounting, Introductory Course, 2nd Ed. Cincinnati, Ohio: Southwestern Publishing Co., 1978. (Chapters 1-14).

GOAL I: LEARN TO KEEP A CHECKING ACCOUNT AND TO RECONCILE THE BANK STATEMENT.

OBJECTIVES: The student will:

	I	R	M	E
1. Define accounting terms related to a checking account and reconciling a bank statement	x	x	x	ots
2. Explain principles and practices related to checking accounts	x	x	x	ots
3. Prepare a bank deposit slip	x	x	x	ots
4. Endorse checks to transfer ownership	x	x	x	ots
5. Prepare a bank statement reconciliation	x	x	x	ots
6. Record a bank service charge	x	x	x	ots
7. Record a dishonored check in Cash Journal	x	x	x	ots

SUGGESTED RESOURCES:

I 1-7 Quadrasonics, [Electronic Sound Equipment A Business Simulation]. Cincinnati, Ohio: Southwestern Publishing Co.

COURSE: ACCOUNTING I

GOAL J: LEARN TERMINOLOGY AND PRACTICES RELATED TO MERCHANDISING BUSINESS.

OBJECTIVES: The student will:	I	R	M	E
1. Define accounting terms related to purchases and cash payments	x	x	x	ots
2. Explain accounting principles and practices related to purchases and cash payments	x	x	x	ots
3. Classify accounts related to purchases and cash payments	x	x	x	ots
4. Analyze transactions related to purchases and cash payments into debit and credit parts	x	x	x	ots
5. Journalize purchases and cash payments in a combination journal	x	x	x	ots

SUGGESTED RESOURCES:

J 1-5 Swanson, Boynton, and Hanson Ross. Working Papers for Century 21, Accounting, Introductory Course, 2nd Ed. Cincinnati, Ohio: Southwestern Publishing Co., 1978. (Chapters 1-14).

GOAL K: LEARN TO JOURNALIZE SALES AND CASH RECEIPTS.

OBJECTIVES: The student will:	I	R	M	E
1. Define accounting terms related to sales and cash receipts	x	x	x	ots
2. Explain accounting principles and practices related to sales and cash receipts	x	x	x	ots
3. Classify accounts related to sales and cash receipts	x	x	x	ots
4. Analyze transactions related to sales and cash receipts into debit and credit parts	x	x	x	ots
5. Journalize sales and cash receipts in a combination journal	x	x	x	ots
6. Total, prove and rule a combination journal	x	x	x	ots

SUGGESTED RESOURCES:

K 1-6 Swanson, Boynton, and Hanson Ross. Working Papers for Century 21, Accounting, Introductory Course, 2nd Ed. Cincinnati, Ohio: Southwestern Publishing Co., 1978. (Chapters 1-14).

COURSE: ACCOUNTING I

GOAL L: LEARN TO POST TO LEDGERS.

OBJECTIVES: The student will:

	I	R	M	E
1. Explain accounting principles and practices related to posting to ledgers	x	x	x	ots
2. Open accounts in subsidiary ledgers	x	x	x	ots
3. Post to ledgers from a combination journal	x	x	x	ots
4. Prepare subsidiary schedules	x	x	x	ots
5. Prove equality of debits and credits in general ledger	x	x	x	ots

SUGGESTED RESOURCES:

L 1-5 Swanson, Boynton, and Hanson Ross, Working Papers for Century 21, Accounting, Introductory Course, 2nd Ed. Cincinnati, Ohio: Southwestern Publishing Co., 1978. (Chapters 1-14).

GOAL M: DEMONSTRATE ACCOUNTING PROCEDURES FOR A MERCHANDISING BY LEARNING AN EIGHT-COLUMN WORKSHEET.

OBJECTIVES: The student will:

	I	R	M	E
1. Define accounting terms related to an eight-column worksheet	x	x	x	ots
2. Explain accounting principles and practices related to the use of an eight-column worksheet	x	x	x	ots
3. Record a trial balance on an eight-column worksheet	x	x	x	ots
4. Plain adjustments on an eight column worksheet	x	x	x	ots
5. Complete an eight-column worksheet	x	x	x	ots

SUGGESTED RESOURCES:

M 1-5 Swanson, Boynton, and Hanson Ross. Working Papers for Century 21, Accounting, Introductory Course, 2nd Ed. Cincinnati, Ohio: Southwestern Publishing Co., 1978. (Chapters 1-14).

COURSE: ACCOUNTING I

GOAL N: DEMONSTRATE ACCOUNTING PROCEDURES FOR A MERCHANDISING BUSINESS BY LEARNING FINANCIAL STATEMENTS.

OBJECTIVES: The student will:	I	R	M	E
1. Define accounting terms related to financial statements	x	x	x	ots
2. Explain accounting principles and practices related to financial statements	x	x	x	ots
3. Prepare an income statement with a cost of merchandise sold section	x	x	x	ots
4. Prepare a capital statement	x	x	x	ots
5. Prepare a balance sheet	x	x	x	ots

SUGGESTED RESOURCES:

N 1-5 Swanson, Boynton, and Hanson Ross. Working Papers for Century 21, Accounting, Introductory Course, 2nd Ed. Cincinnati, Ohio: Southwestern Publishing Co., 1978. (Chapters 1-14).

GOAL O: DEMONSTRATE ACCOUNTING PROCEDURES FOR A MERCHANDISING BUSINESS BY LEARNING ADJUSTING AND CLOSING ENTRIES.

OBJECTIVES: The student will:	I	R	M	E
1. Explain accounting principles and practices related to adjusting and closing entries	x	x	x	ots
2. Journalize adjusting entries	x	x	x	ots
3. Journalize closing entries	x	x	x	ots
4. Post adjusting and closing entries	x	x	x	ots
5. Prepare a post-closing trial balance	x	x	x	ots

SUGGESTED RESOURCES:

O 1-5 Swanson, Boynton, and Hanson Ross. Working Papers for Century 21, Accounting, Introductory Course, 2nd Ed. Cincinnati, Ohio: Southwestern Publishing Co., 1978. (Chapters 1-14).

COURSE: ACCOUNTING II

TEXT: SWANSON, BOYNTON, AND HANSON ROSS. CENTURY 21 ACCOUNTING, ADVANCED COURSE, 2ND ED. SOUTHWESTERN PUBLISHING CO. CINCINNATI, OHIO, 1978. (CHAPTERS 1-14).

GOAL A: KNOW ACCOUNTING TERMINOLOGY RELATED TO A SERVICE BUSINESS ORGANIZED AS A SOLE PROPRIETORSHIP.

OBJECTIVES: The student will:	I	R	M	E
1. Define accounting terms related to starting an accounting system	x	x	x	ots
2. Identify the accounting concepts and principles used in deciding on the procedures for starting an accounting system	x	x	x	ots
3. Classify financial items as assets, liabilities, or capital	x	x	x	ots
4. Prepare a beginning balance sheet for a small service business	x	x	x	ots
5. Record an opening entry in a two column general journal	x	x	x	ots
6. Open accounts in a ledger guided by a chart of accounts	x	x	x	ots
7. Post an opening entry from a journal to a ledger	x	x	x	ots

SUGGESTED RESOURCES:

A 1-7 Swanson, Boynton, and Hanson Ross. Working Papers for Century 21, Accounting, Introductory Course, 2nd Ed. Cincinnati, Ohio: Southwestern Publishing Co., 1978. (Chapters 1-14).

GOAL B: UNDERSTAND THE EFFECT OF CHANGES CAUSED BY BUSINESS TRANSACTIONS.

OBJECTIVES: The student will:	I	R	M	E
1. Define accounting terms related to changes caused by business transactions	x	x	x	ots
2. Explain accounting principles and practices related to changes caused by business transactions	x	x	x	ots
3. Analyze business transactions to show how these transactions affect items on an expanded accounting equation	x	x	x	ots
4. Figure new balances after increases and decreases are shown in basic accounting equation items	x	x	x	ots
5. Determine that after each transaction, changes are shown on an expanded accounting equation, the basic equation is still "in balance"	x	x	x	ots
6. Prepare a balance sheet from information on an expanded accounting equation after changes caused by a series of transactions are shown	x	x	x	ots

SUGGESTED RESOURCES:

B 1-6 Swanson, Boynton, and Hanson Ross. Working Papers for Century 21, Accounting, Introductory Course, 2nd Ed. Cincinnati, Ohio: Southwestern Publishing Co., 1978. (Chapters 1-14).

COURSE: ACCOUNTING II

GOAL C: ANALYZE TRANSACTIONS INTO DEBIT AND CREDIT PARTS.	I	R	M	E
OBJECTIVES: The student will:				
1. Explain accounting principles and practices related to analyzing transactions into debit and credit parts	x	x	x	ots
2. Use "T" accounts to analyze transactions showing whether accounts are debited	x	x	x	ots
3. Recognize and check that debits equal credits for each transaction	x	x	x	ots

SUGGESTED RESOURCES:

C 1-3 Swanson, Boynton, and Hanson Ross. Working Papers for Century 21, Accounting, Introductory Course, 2nd Ed. Cincinnati, Ohio: Southwestern Publishing Co., 1978. (Chapters 1-14).

GOAL D: LEARN HOW TO FORM A PARTNERSHIP.	I	R	M	E
OBJECTIVES: The student will:				
1. Learn the accounting terminology related to a partnership	x	x	x	ots
2. Understand accounting concepts and practices related to a partnership	x	x	x	ots
3. Demonstrate accounting procedures for a partnership	x	x	x	ots

SUGGESTED RESOURCES:

D 1-3 Swanson, Boynton, and Hanson Ross. Working Papers for Century 21, Accounting, Introductory Course, 2nd Ed. Cincinnati, Ohio: Southwestern Publishing Co., 1978. (Chapters 1-14).

Current Accounting Issues presented utilizing Time and Newsweek magazines.

COURSE: ACCOUNTING II

GOAL E: DIVIDE PARTNERSHIP EARNINGS.

OBJECTIVES: The student will:

	I	R	M	E
1. Define accounting terms related to dividing partnership earnings	x	x	x	ots
2. Identify concepts and practices related to dividing partnership earnings	x	x	x	ots
3. Prepare a distribution of net income statement	x	x	x	ots
4. Record a closing entry to distribute net income or loss	x	x	x	ots

SUGGESTED RESOURCES:

E 1-4 Swanson, Boynton, and Hanson Ross. Working Papers for Century 21, Accounting, Introductory Course, 2nd Ed. Cincinnati, Ohio: Southwestern Publishing Co., 1978. (Chapters 1-14).

GOAL F: DO THE END OF FISCAL-PERIOD WORK FOR A PARTNERSHIP.

OBJECTIVES: The student will:

	I	R	M	E
1. Define accounting terms related to end-of-fiscal period work for a partnership	x	x	x	ots
2. Identify concepts and practices related to end-of-fiscal period work for a partnership	x	x	x	ots
3. Complete selected end-of-fiscal period work for a partnership	x	x	x	ots

SUGGESTED RESOURCES:

F 1-3 Adams & Silver. Hardware and Building Supplies: A Business Simulation. Cincinnati, Ohio: Southwestern Publishing Co.

GOAL G: LEARN THE ROLE OF AN ACCOUNTS PAYABLE CLERK WHO RECORDS PURCHASES AND PAYMENTS.

OBJECTIVES: The student will:

	I	R	M	E
1. Define accounting terms related to departmental purchases and cash payments	x	x	x	ots
2. Identify concepts and practices related to departmental purchases and cash payments	x	x	x	ots
3. Record departmental purchases, purchase returns and allowances, and cash payments	x	x	x	ots
4. Prepare a bank statement reconciliation	x	x	x	ots

SUGGESTED RESOURCES:

G 1-4 Swanson, Boynton, and Hanson Ross. Working Papers for Century 21, Accounting, Introductory Course, 2nd Ed. Cincinnati, Ohio: Southwestern Publishing Co., 1978. (Chapters 1-14).

COURSE: ACCOUNTING II

GOAL H: LEARN THE ROLE OF AN ACCOUNTS RECEIVABLE CLERK WHO RECORDS SALES AND RECEIPTS.

OBJECTIVES: The student will:

	I	R	M	E
1. Define accounting terms related to department sales and cash receipts	x	x	x	ots
2. Identify concepts and practices related to departmental sales and cash receipts	x	x	x	ots
3. Record departmental sales, sales returns and allowances and cash receipts	x	x	x	ots

SUGGESTED RESOURCES:

H 1-3 Swanson, Boynton, and Hanson Ross. Working Papers for Century 21, Accounting, Introductory Course, 2nd Ed. Cincinnati, Ohio: Southwestern Publishing Co., 1978. (Chapters 1-14).

GOAL I: LEARN THE ROLE OF A PAYROLL CLERK WHO FIGURES AND RECORDS PAYROLL DATA.

OBJECTIVES: The student will:

	I	R	M	E
1. Define accounting terms related to departmental payroll systems	x	x	x	ots
2. Identify concepts and practices related to departmental payroll systems	x	x	x	ots
3. Complete payroll records	x	x	x	ots

SUGGESTED RESOURCES:

I 1-3 Federal Income Tax Unit: IRS Packet: Understanding Taxes 1985 (Student Text Publication 21).

COURSE: ACCOUNTING II

GOAL J: LEARN HOW TO DO FINANCIAL REPORTS FOR A DEPARTMENTALIZED BUSINESS.

OBJECTIVES: The student will	I	R	M	E
1. Define accounting terms related to end-of-fiscal period work for a departmentalized business	x	x	x	ots
2. Identify concepts and practices related to end-of-fiscal period work for a departmentalized business	x	x	x	ots
3. Complete selected interim and end-of-fiscal period work for a departmentalized business	x	x	x	ots

SUGGESTED RESOURCES:

J 1-3 Swanson, Boynton, and Hanson Ross. Working Papers for Century 21, Accounting, Introductory Course, 2nd Ed. Cincinnati, Ohio: Southwestern Publishing Co., 1978. (Chapters 1-14).

GOAL K: LEARN TO WORK WITH INVENTORY.

OBJECTIVES: The student will:	I	R	M	E
1. Define accounting terms related to an inventory system	x	x	x	ots
2. Explain accounting principles and practices related to an inventory system	x	x	x	ots
3. Determine the cost of merchandise using the fifo and lifo methods	x	x	x	ots
4. Determine the valuation of merchandise using the lower of cost or market method	x	x	x	ots
5. Estimate the value of merchandise inventory using the gross profit method	x	x	x	ots

SUGGESTED RESOURCES:

K 1-5 Swanson, Boynton, and Hanson Ross. Working Papers for Century 21, Accounting, Introductory Course, 2nd Ed. Cincinnati, Ohio: Southwestern Publishing Co., 1978. (Chapters 1-14).

COURSE: ACCOUNTING II

GOAL L: LEARN THE VOUCHER SYSTEM.

OBJECTIVES: The student will:	I	R	M	E
1. Define accounting terms related to a voucher system	x	x	x	ots
2. Explain accounting principles and practices related to a voucher system	x	x	x	ots
3. Prepare a voucher	x	x	x	ots
4. Record vouchers in a voucher register	x	x	x	ots
5. Record cash transactions in a check register	x	x	x	ots
6. Record purchase returns and allowances and payroll transactions in a voucher system	x	x	x	ots

SUGGESTED RESOURCES:

L 1-6 Swanson, Boynton, and Hanson Ross. Working Papers for Century 21, Accounting, Introductory Course, 2nd Ed., Cincinnati, Ohio: Southwestern Publishing Co., 1978. (Chapters 1-14).

GOAL M: LEARN THE PETTY CASH SYSTEM.

OBJECTIVES: The student will:	I	R	M	E
1. Define accounting terms related to a petty cash system	x	x	x	ots
2. Explain accounting principles and practices related to a petty cash system	x	x	x	ots
3. Establish a petty cash fund using a voucher system	x	x	x	ots
4. Record payments from a petty cash fund in a petty cash record	x	x	x	ots
5. Prepare a voucher to replenish petty cash fund	x	x	x	ots
6. Establish and replenish a petty cash fund using a cash payments journal	x	x	x	ots

SUGGESTED RESOURCES:

M 1-6 Swanson, Boynton and Hanson Ross. Working Papers for Century 21, Accounting, Introductory Course, 2nd Ed., Cincinnati, Ohio: Southwestern Publishing Co., 1978. (Chapters 1-14).

COURSE: ACCOUNTING II

GOAL N: LEARN AUTOMATED SYSTEMS.

OBJECTIVES: The student will:	I	R	M	E
1. Define terminology related to an automated departmentalized business	x			ots
2. Identify accounting concepts and automated accounting practices for a departmentalized business	x			ots
3. Assign account numbers to accounts in a general ledger and subsidiary ledgers	x			ots
4. Record purchases and cost payments and prepare a batch control sheet	x			ots
5. Record sales, cash receipts and general transactions and prepare a batch control sheet	x			ots
6. Prepare a subsidiary ledger control sheet	x			ots
7. Complete selected end-of-fiscal period work for an automated departmentalized business	x			ots

SUGGESTED RESOURCES:

N 1-7 Swanson, Boynton, and Hanson Ross. Working Papers for Century 21, Accounting, Introductory Course, 2nd Ed. Cincinnati, Ohio: Southwestern Publishing Co., 1978. (Chapters 1-14).

BUSINESS MATHEMATICS CURRICULUM AA.1

COURSE: ADVANCED ACCOUNTING

TEXT: SWANSON, BOYNTON, AND HANSON ROSS. CENTURY 21 ACCOUNTING, ADVANCED COURSE, 2ND ED., CINCINNATI, OHIO: SOUTHWESTERN PUBLISHING CO. 1978. (CHAPTERS 15-28).

GOAL O: LEARN TO FORM A CORPORATION.	I	R	M	E
OBJECTIVES: The student will:				
1. Define accounting terms related to corporation accounting	x	x	x	ots
2. Identify concepts and practices	x	x	x	ots
3. Figure dividends of a corporation	x	x	x	ots
4. Record transactions to start a corporation	x	x	x	ots
5. Prepare a balance sheet for a newly formed corporation	x	x	x	ots

SUGGESTED RESOURCES:

O 1-1 Swanson, Boynton, and Hanson Ross. Working Papers for Century 21, Accounting, Introductory Course, 2nd Ed., Cincinnati, Ohio: Southwestern Publishing Co., 1978. (Chapters 15-28).

GOAL P: LEARN HOW TO ACQUIRE CAPITAL FOR A CORPORATION.	I	R	M	E
OBJECTIVES: The student will:				
1. Define accounting terms related to acquiring capital for a corporation	x	x		ots
2. Identify accounting concepts and practices related to acquiring capital for a corporation	x	x		ots
3. Record entries for issuing additional capital stock	x	x	x	ots
4. Record entries for purchasing and seeing treasury stock	x	x	x	ots
5. Record entries for bonds payable	x	x	x	ots

SUGGESTED RESOURCES:

P 1-5 Corporation Annual Reports

Swanson, Boynton, and Hanson Ross. Working Papers for Century 21, Accounting, Introductory Course, 2nd Ed. Cincinnati, Ohio: Southwestern Publishing Co., 1978. (Chapters 15-28).

Wall Street Journal- Orientation to financial listings and transaction of corporations on a daily basis. Stock quotations and bond listings are observed.

COURSE: ADVANCED ACCOUNTING

GOAL Q: LEARN HOW TO DO FINANCIAL ANALYSIS AND REPORTING OF A CORPORATION.

OBJECTIVES: The student will:	I	R	M	E
1. Define accounting terms related to financial analysis and reporting of a corporation	x	x	x	ots
2. Identify accounting concepts and practices related to financial analysis and reporting of a corporation	x	x	x	ots
3. Complete selected end-of-fiscal period work for a corporation	x	x	x	ots
4. Record entries for declaring and paying dividends	x	x		ots
5. Analyze the equity of a corporation	x	x		ots

SUGGESTED RESOURCES:

Q 1-5 Custom Auto Center [A Business Simulation]. Cincinnati, Ohio: Southwestern Publishing Co.

GOAL R: LEARN COST ACCOUNTING FOR A MERCHANDISING BUSINESS.

OBJECTIVES: The student will:	I	R	M	E
1. Define accounting terms related to cost accounting for a departmentalized merchandising business	x	x	x	ots
2. Identify concepts and practices related to cost accounting for a departmentalized merchandising business	x	x	x	ots
3. Record cost transactions	x	x		ots
4. Complete end-of-fiscal period work for a departmentalized merchandising business using departmental margins	x	x	x	ots

SUGGESTED RESOURCES:

R 1-4 Swanson, Boynton, and Hanson Ross. Working Papers for Century 21, Accounting, Introductory Course, 2nd Ed., Cincinnati, Ohio: Southwestern Publishing Co., 1978. (Chapters 15-28).

COURSE: ADVANCED ACCOUNTING

GOAL S: LEARN HOW TO MANAGE COST RECORDS FOR A MANUFACTURING BUSINESS.

OBJECTIVES: The student will:

OBJECTIVES	I	R	M	E
1. Define accounting terms related to cost records for a manufacturing business	x	x	x	ots
2. Identify direct materials, direct labor and factory overhead	x	x	x	ots
3. Identify the flow of costs through the manufacturing process	x	x		ots
4. Prepare a materials ledger sheet, cost sheet, and furnished goods ledger sheet for a manufacturing business	x	x	x	ots
5. Record accounting transactions for a manufacturing business	x	x		ots
6. Prepare selected financial statements for a manufacturing business	x	x		ots

SUGGESTED RESOURCES:

S 1-6 Trade Winds Marine [A Business Simulation]. Cincinnati, Ohio: Southwestern Publishing Co.

GOAL T: LEARN TO DO BUDGETARY PLANNING AND CONTROL.

OBJECTIVES: The student will:

OBJECTIVES	I	R	M	E
1. Define terminology related to budgetary planning and control	x	x	x	ots
2. Identify accounting concepts and practices related to preparing and analyzing budgeted income statements and cash budgets	x	x	x	ots
3. Prepare a budgeted income statement	x	x	x	ots
4. Prepare a comparative income statement	x	x	x	ots
5. Prepare a Sales and Purchase Budget Schedule	x	x		ots
6. Prepare a Selling Expense Budget Schedule	x	x		ots
7. Prepare a Cash Budget	x	x		ots

SUGGESTED RESOURCES:

T 1-7 Swanson, Boynton, and Hanson Ross. Working Papers for Century 21, Accounting, Introductory Course, 2nd Ed. Cincinnati, Ohio: Southwestern Publishing Co., 1978. (Chapters 15-28).

COURSE: ADVANCED ACCOUNTING

GOAL U: LEARN ACCOUNTING FOR UNCOLLECTIBLE ACCOUNTS.

OBJECTIVES: The student will:	I	R	M	E
1. Define accounting terms related to uncollectible accounts	x	x	x	ots
2. Identify concepts and practices related to uncollectible accounts	x	x	x	ots
3. Record entries for uncollectible accounts using the direct write-off method	x	x	x	ots
4. Record entries for uncollectible accounts using the allowance method	x	x	x	ots
5. Figure and analyze accounts receivable turnover rates	x	x		ots

SUGGESTED RESOURCES:

U 1-5 Swanson, Boynton, and Hanson Ross. Working Papers for Century 21, Accounting, Introductory Course, 2nd Ed. Cincinnati, Ohio: Southwestern Publishing Co., 1978. (Chapters 15-28).

GOAL V: LEARN ACCOUNTING FOR PLANT ASSETS.

OBJECTIVES: The student will:	I	R	M	E
1. Define accounting terms related to plant assets	x	x	x	ots
2. Identify concepts and practices related top accounting for plant assets	x	x	x	ots
3. Figure plant asset depreciation	x	x	x	ots
4. Record plant asset information in a plant assets register	x	x	x	ots
5. Record entries for disposing of a plant asset	x	x	x	ots
6. Figure and record property tax expense	x	x	x	ots

SUGGESTED RESOURCES:

V 1-6 Swanson, Boynton, and Hanson Ross. Working Papers for Century 21, Accounting, Introductory Course, 2nd Ed. Cincinnati, Ohio: Southwestern Publishing Co., 1978. (Chapters 15-28).

COURSE: ADVANCED ACCOUNTING

GOAL W: LEARN ACCOUNTING FOR ACCRUED ITEMS AND PREPAID EXPENSE.	I	R	M	E
OBJECTIVES: The student will:				
1. Define accounting terms related to notes and accrued items and prepaid expenses	x	x	x	ots
2. Identify concepts and practices related to accounting for accrued items and prepaid expenses	x	x	x	ots
3. Record transactions notes payable	x	x		ots
4. Record adjusting entries for accrued revenue and accrued expenses	x	x		ots
5. Record reversing entries for accrued revenue and accrued expenses	x	x		ots
6. Analyze and record adjustments for prepaid expenses	x	x		ots
7. Complete selected end-of-fiscal period work which involves prepaid expenses and accrued items	x	x		ots

SUGGESTED RESOURCES:

W 1-7 Swanson, Boynton, and Hanson Ross. Working papers for Century 21, Accounting, Introductory Course, 2nd Ed. Cincinnati, Ohio: Southwestern Publishing Co., 1978. (Chapters 15-28).